### Study plan

# Name of study plan: Civil Engineering

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Civil Engineering Type of study: Bachelor full-time Required credits: 120 Elective courses credits: 0 Sum of credits in the plan: 120 Note on the plan: tento studijní plán platí od roku 2020 a pokra uje v 5. až 8. semestru podle jednotlivých specializací

Name of the block: Compulsory courses Minimal number of credits of the block: 117 The role of the block: Z

Code of the group: BJ20190100 Name of the group: Stavební inženýrství, varianta J, 1. semestr Requirement credits in the group: In this group you have to gain at least 29 credits Requirement courses in the group: In this group you have to complete at least 6 courses Credits in the group: 29 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
101KG01	Constructive Geometry Iva K ivková, Iva Malechová, Michal Zdražil, Iva Slámová, Hana Lakomá, Petra Vacková, Jana ápová, Jozef Bobok Jana ápová Iva K ivková (Gar.)	Z,ZK	5	2P+2C	Z,L	Z
101MA01	Mathematics 1 Iva Malechová, Iva Slámová, Petra Vacková, Jana ápová, Jozef Bobok, Michal Beneš, Ivana Pultarová, Ond ej Zindulka, Jan Chleboun, Aleš Nekvinda Aleš Nekvinda (Gar.)	Z,ZK	6	2P+3C	Z,L	Z
105SVAI	Social Sciences and Architecture Josef Záruba Pfeffermann, Bo ivoj Marek, Rudolf Pošva, Dana ímanová, Jana Hrbková Josef Záruba Pfeffermann Josef Záruba Pfeffermann (Gar.)	Z,ZK	5	4P+1C	L	Z
123CHE	<b>Chemistry</b> Jana Náb Iková, Martin Keppert, Milena Pavlíková <b>Milena Pavlíková</b> Milena Pavlíková (Gar.)	Z,ZK	4	3P+1C	L	Z
132SM01	Structural Mechanics 1 Michal Polák, Daniel Rypl, Mat j Lepš, Jan Sýkora, Tomáš Koudelka, Aleš Pali ka, Karel Pohl, Tomáš Plachý, Martin Válek, Mat j Lepš Michal Polák (Gar.)	Z,ZK	6	2P+2C	Z,L	Z
135GM01	Geomechanics 1 Kate ina Ková ová, Jan Jelínek, Svatoslav Chamra, Richard Malát Kate ina Ková ová Kate ina Ková ová (Gar.)	Z	3	2P+1C	L	Z

#### Characteristics of the courses of this group of Study Plan: Code=BJ20190100 Name=Stavební inženýrství, varianta J, 1. semestr

101KG01	Constructive Geometry	Z,ZK	5					
Projections and projection	ve methods. Axonometry. Oblique projection. Orthogonal axonometry. Displaying prisms, cones, cylinders, pyramids, balls. Si	imple problems in	axonometry.					
Basics of lighting of soli	ds and groupes of solids. Perspective projection. Curves, parametrisation. Frenet's trihedron, torsion and curvature. Helical su	urfaces. Quadrics	. Surfaces in					
building industry.								
101MA01	Mathematics 1	Z,ZK	6					
https://mat.fsv.cvut.cz/b	ubenik/mat1detail.htm							
105SVAI	Social Sciences and Architecture	Z,ZK	5					
The subject combines the	ne teaching of several social sciences: economics and economic policies, political science, political philosophy and law, with	an overview of the	e development					
of architecture. In the se	ction devoted to economics, the basic categories of the market economy, the foundations of economic policy and the basic co	ncepts of internat	tional economics					
are explained. Theoretic	are explained. Theoretical interpretation is effectively combined with practical examples from economic reality. In the lectures devoted to law, a brief overview of the development of							
Roman law and its instit	utions is supplemented by a well-founded interpretation of the constitution, human rights and the labor code. Great attention	is paid to selecte	d provisions of					
the Civil Code and the C	Construction Act. In the political science lectures, the political development in ancient times is described in an engaging way,	the theory of the	state, political					
systems, democracy an	d totalitarianism are clarified. The series of lectures on the history of architecture and construction provides a comprehensive	e interpretation of	the history of					
architecture from antiqu	ity to postmodernism and deconstruction.							

123CHE	Chemistry	Z,ZK	4				
Introduction to general	Introduction to general chemistry - chemical bond, compounds, reactions, equilibrium. Chemistry of environment - water, atmosphere, pedosphere. Chemistry of building materials -						
inorganic binders, glass	, ceramic, metals, natural polymers, wood, synthetic polymers on C and Si basis. Introduction to degradation of building mat	erials and to analy	/tical chemistry.				
132SM01	Structural Mechanics 1	Z,ZK	6				
Concurrent forces, force	systems acting on rigid bodies in space/plane, moment of a force about a point and line. Supports of a rigid body, reaction fo	orces. Compound	two-dimensional				
structures. Trusses. Rea	action forces applying the principle of virtual work.						
135GM01	Geomechanics 1	Z	3				
The course focuses on the understanding of basic geological laws and principles in relation to architecture, civil engineering and urban planning. Emphasis is placed on explaining the							
influence of geological processes, both endogenous and exogenous, on the rock environment and how the geological situation affects the design of structures and their interaction with							
the rock environment. A	t the same time, attention is paid to the technical properties of rocks with regard to their practical applications. The course al	so includes a brief	f introduction to				
the regional geology of	the Czech Republic.						

#### Code of the group: BJ20190200

#### Name of the group: Stavební inženýrství, varianta J, 2. semestr

Requirement credits in the group: In this group you have to gain at least 28 credits

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

#### Credits in the group: 28

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
101MA02	Mathematics 2 Iva Malechová, Iva Slámová, Hana Lakomá, Petra Vacková, Jana ápová, Jozef Bobok, Michal Beneš, Ivana Pultarová, Ond ej Zindulka, Ivana Pultarová Ivana Pultarová (Gar.)	Z,ZK	6	2P+3C	L,Z	Z
102FYI	Physics Pavel Novák, Tomáš Zbíral, Ji í Konfršt, Petr Pokorný, Jan Trejbal, Pavel Demo, Ji í Novák <b>Pavel Novák</b> Pavel Novák (Gar.)	Z,ZK	4	3P+1C	L	Z
123SH01	<b>Building Materials</b> Alena Vimmrová, Eva Vejmelková, Miloš Jerman <b>Alena Vimmrová</b> Alena Vimmrová (Gar.)	Z,ZK	5	2P+2C	Z,L	Z
126BIM1	BIM Petr Mat jka, Josef Žák Josef Žák Josef Žák (Gar.)	Z	1	1P+1C	Z	Z
132SM02	Structural Mechanics 2 Michal Polák, Daniel Rypl, Mat j Lepš, Jan Sýkora, Tomáš Koudelka, Aleš Pali ka, Martin Válek, Jitka N me ková, Šimon Glanc, Michal Polák Michal Polák (Gar.)	Z,ZK	6	2P+2C	L,Z	Z
154SG01	Land Surveying in Civil Engineering Rudolf Urban, Martin Štroner Rudolf Urban Rudolf Urban (Gar.)	Z,ZK	6	2P+3C	Z,L	Z

#### Characteristics of the courses of this group of Study Plan: Code=BJ20190200 Name=Stavební inženýrství, varianta J, 2. semestr

101MA02	Mathematics 2	Z,ZK	6
https://mat.fsv.cvut.cz/v	yuka/bakalari/eng/ls/MT02/		
102FYI	Physics	Z,ZK	4
This is a basic physics	course for students of the study programmes Civil Engineering; Management and Economics in Construction. The course foc	uses on mechani	cs and basic
thermodynamics. The for	plowing areas are covered in the course: Mechanics of material points (particles) and deformable bodies. Discrete and contin	uous model of ma	atter. Kinematics
and dynamics of a mate	erial point (particle). Mechanical force fields. Gravitational field. Mechanical vibrations. Material deformation. Elastic waves. Ac	oustics. Hydrome	chanics.
Fundamentals of therm	odynamics. Heat transfer.		
123SH01	Building Materials	Z,ZK	5
Building materials - bas	s course. Clasification of the materials. Structure of materials. Main properties of materials. Application of materials in buildin	g constructions.	ntroduction to
material testing.			
126BIM1	BIM	Z	1
The course focuses on	teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable	across different	specialisations
and disciplines of the co	onstruction industry. Students will be introduced to data formats, data standards, intellectual property issues, working with digiti	zed documents, r	raster and vector
graphics, open data sou	rces in the Czech Republic, ICT and enterprise systems, information systems for the construction industry, but also the context	of BIM in the curr	rent construction
industry in relation to th	e entire project life cycle and its specifics (delivery, expert focus, phases of construction projects, etc.) The theoretical knowle	dge is compleme	nted by practical
exercises aimed at mas	tering and understanding the basic principles of object-oriented parametric modelling.		
132SM02	Structural Mechanics 2	Z,ZK	6
Internal forces diagram	s of simple statically determinate plane structures and compound two-dimensional structures. Multiaxially loaded cantilever. D	efinition of norma	al stress and
prepositions of its distri	pution in a cross section. Equivalence of internal forces. Geometry of mass and areas, centre of gravity and moments of inerti	a.	
154SG01	Land Surveying in Civil Engineering	Z,ZK	6
The shape and size of t	he Earth, substitutive surfaces, cartographic projections Horizontal and vertical control, coordinate calculations Quality contro	ol, deviations and	tolerations in
build-up Angle and dist	ance measurements Heighting measurements Other geodetic methods in build-up (GNSS, DPZ,) Photogrammetry and las	er scanning Ther	natic mapping
and present state docu	nentation Geodetic works in build-up State map series of CR and thematic maps for build-up Geographic information system	s and spatial plar	ning Cadastre
of real estates Laws an	d decrees for geodesy and build-up in Czech Republic		

#### Code of the group: BJ20190300

Name of the group: Stavební inženýrství, varianta J, 3. semestr

Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 6 courses

# Credits in the group: 30

Note on the g	ioup.					
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
101MA03	Mathematics 3 Iva Malechová, Jozef Bobok, Michal Beneš, Ond ej Zindulka, Petr Ku era, Zden k Skalák, Martin Hála, Martin Soukenka, Petr Mayer, Michal Beneš Michal Beneš (Gar.)	Z,ZK	6	3P+2C	Z,L	Z
124PSI1	Building Structures 11 Ctislav Fiala, Jan R ži ka, Petr Hájek, Jaroslav Vychytil, B la Stib rková Jan R ži ka Petr Hájek (Gar.)	Z	4	2P+1C	Z	Z
132PRPE	Strength of Materials Petr Kabele, Michal Šejnoha, Milan Jirásek, Jan Vorel, Eva Novotná, Martin Došká, Martin Horák, Martin Lebeda, Barbora Hálková, Milan Jirásek Petr Kabele (Gar.)	Z,ZK	6	3P+2C	Z,L	Z
135GM2I	Geomechanics 2I Jan Salák, Ji í Koš ál, Martin Vaní ek, Ivan Vaní ek Ivan Vaní ek Jan Salák (Gar.)	Z,ZK	5	2P+1C	Z	Z
141HYA	Hydraulics Michal Dohnal, Aleš Havlík, Tomáš Picek, Václav Matoušek, Petr Sklená, Martin Fencl, Anna Špa ková, Jakub Novotný, Vojt ch Bareš, Václav Matoušek Michal Dohnal (Gar.)	Z,ZK	5	2P+2C	Z,L	Z
142VIZP	Water and Environmental Engineering Aleš Havlík, Martin Fencl, Michal Sn hota, Petr Nowak, Tomáš Dostál, Martin Do kal, Martin Šanda, Pavel Fošumpaur, Bohumil Š astný, Martin Horský Ladislav Satrapa (Gar.)	Z,ZK	4	3P+1C	Z,L	Z

#### Characteristics of the courses of this group of Study Plan: Code=BJ20190300 Name=Stavební inženýrství, varianta J, 3. semestr

101MA03	Mathematics 3	Z,ZK	6				
https://mat.fsv.cvut.cz/vyuka/bakalari/eng/zs/							
124PSI1	Building Structures 1I	Z	4				
The concept of design c	f building structures with a comprehensive consideration of the functional requirements imposed on individual elements. Req	uirements for buil	ding structures,				
structural system, intera	ction of elements, spatial effect of the structural system. Vertical load-bearing structures (functions, requirements, principles of	of the structural d	esign of walls,				
columns), floor structure	s (functions, requirements, principles of the structural design of vaults, wooden ceilings, reinforced concrete ceilings, ceramic	concrete ceilings	, steel and steel				
concrete ceilings). Expa	nsion joints in load-bearing systems. Structural systems of single and multi-storey buildings, structural systems of long-span	structures.					
132PRPE	Strength of Materials	Z,ZK	6				
Fundamentals of the the	eory of elasticity: stress and strain of straight beams subjected to bending and free torsion, ultimate plastic capacity of a mem	ber in bending, c	ritical loads and				
buckling lengths of straig	ght compression members. Basic assumptions, quantities, and equations describing the stress and strain state in 3D continuu	um, plates and wa	alls.				
135GM2I	Geomechanics 2I	Z,ZK	5				
Formation of soils, basic	properties of soils, water in soil, strength and deformation properties of soils and their determination, improvement of soil pro-	operties, applicat	ion tasks				
141HYA	Hydraulics	Z,ZK	5				
A course deals with issu	ies of hydrostatics and hydrodynamics with aiming at civil engineering applications. There are analysed tasks related to hydro	static and hydrod	lynamic loading				
of structures, pipeline flo	w, open channel flow and groundwater flow.						
142VIZP	Water and Environmental Engineering	Z,ZK	4				
During the teaching sen	nester, students are introduced to the fields of water engineering, water management and environmental engineering. In parti	cular, emphasis i	s placed on the				
practical aspects of wate	practical aspects of water and environmental engineering in close relation to other branches of civil engineering. The course is taught in the form of lectures and tutorials. The lectures						
are divided thematically into 20 blocks according to the different branches of the discipline (13 times water engineering and 7 times environmental engineering). In the exercises,							
students work on basic	students work on basic problems in the field of hydrology, water supply and water structures, especially dams, hydropower and flood issues. All 4 "water" departments of K14x are						
involved in teaching the	course.						

### Code of the group: BJ20190400

Name of the group: Stavební inženýrství, varianta J, 4. semestr Requirement credits in the group: In this group you have to gain at least 30 credits Requirement courses in the group: In this group you have to complete at least 6 courses Credits in the group: 30 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
124PSI2	Building Structures 2I Ctislav Fiala, Petr Hájek, Malila Noori, Veronika Ka ma íková, Jaroslav Vychytil, Tereza Pavl , Ji í Pazderka, Ji í Nová ek <b>Ji í Pazderka</b> Ji í Pazderka (Gar.)	Z,ZK	4	2P+1C	L	Z
126EKMN	Economics and Management Eduard Hromada, Martin ásenský, Božena Kade ábková, Petr Kal ev, Pavlína Píchová, Pavlína Píchová Eduard Hromada Eduard Hromada (Gar.)	Z,ZK	7	4P+2C		Z
132SM3	Structural Mechanics 3 Tomáš Koudelka, Petr Kabele, Michal Šejnoha, Milan Jirásek, Jan Vorel, Eva Novotná, Martin Horák, Michal Šmejkal, Tomáš Krej í, Aleš Jíra Petr Kabele (Gar.)	Z,ZK	5	2P+2C	L,Z	Z

134NNKO       Design of Supporting Structures 1- Steel Eliäsövä (Gar.)       Z,ZK       3       2P+1C       L       z         136DSUZ       Transport Structures and Urban Planning Ludvik Wob, Frantisak PoopSil, Ond of Brot Frantisak PoopSil Ludvik Vebr       Z,ZK       7       5P+1C       L,Z       z         Characteristics of the courses of this group of Study Plan: Code=BJ20190400 Name=Stavebni inženýrství, varianta J, 4. semestr       Z,ZK       4         Starcases, sloping ramps, lift shala - requirements, structural and material solutions, basics of typology, design principles, construction detals, raquirements, protection against weier, weterproding systems. Structural expansion joints in building - principles of joint design in bearing structures, thermal expansion, compensation of differences in settlement, construction details. Rotorius systems       7         1276EXMN       Economics and Management       Z,ZK       7         1286EXIN       Z,ZK       5         1282EXIN       Structural Mechanics 3	133NNKB	Fundamentals of Structural Design - Concrete Martin Tipka, Radek Štefan, Jitka Vašková Martin Tipka Martin Tipka (Gar.)	Z,ZK	4	2P+1C	L,Z	z
1300S02       Ludvik Veikr, Franktšek Pospišil, Ond ej Bret František Pospišil Ludvik Veir       2, 2, K       7       9F+10       L, 2       Z         Characteristics of the courses of this group of Study Plan: Code=BJ20190400 Name=Stavební inženýrství, varianta J, 4. semestr       124F912       Building Structures 21       Z, K       4         Starcases, sloping ramps, liti shafts - requirements, structural and material solution, basics of typology, design principles, construction details, requirements, protection against water, water worker, water,	134NNKO	František Wald, Michal Jandera, Martina Eliášová Martina Eliášová Martina	Z,ZK	3	2P+1C	L	z
124PBI2       Building Structures 2I       Z,ZK       4         Staicases, sloping ramps, lift shafts - requirements, structural and material solutions, basics of typology, design principles, construction details, railing, Building foundations - foundations, routing against water, waterproofing systems.         126ENMN       Economics and Management       Z,ZK       7         The aim of the course is to provide students with an introduction to economic and management in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic terms and their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic terms and their practical applications. Students will be prepared to solve basic construction industry. They will acquire basic information about the method of the solution on the eactions on the actions on the construction industry. They will acquire basic information about the construction industry. They will acquire basic information about the solution on the solutis on the basics foldadachy.	136DSUZ	Ludvík Vébr, František Pospíšil, Ond ej Bret František Pospíšil Ludvík Vébr	Z,ZK	7	5P+1C	L,Z	Z
124PBI2       Building Structures 2I       Z,ZK       4         Staicases, sloping ramps, lift shafts - requirements, structural and material solutions, basics of typology, design principles, construction details, railing, Building foundations - foundations, routing against water, waterproofing systems.         126ENMN       Economics and Management       Z,ZK       7         The aim of the course is to provide students with an introduction to economic and management in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic terms and their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic terms and their practical applications. Students will be prepared to solve basic construction industry. They will acquire basic information about the method of the solution on the eactions on the actions on the construction industry. They will acquire basic information about the construction industry. They will acquire basic information about the solution on the solutis on the basics foldadachy.	Characteristics of the	courses of this group of Study Plan: Code-B.120190400 Name	–Stavební in	ženýrstv	ví variant	al 4 se	mestr
Staircases, stoping ramips, lift shafts - requirements, structural and material solutions, basics of typology, design principles, construction details, railing, Building foundations - foundation conditions, types of foundations, requirements, building plinth area (construction details). Basement + solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settimet, construction details. Taking the propared to solve basic construction-management in the construction industry. They will acquire basic information about the method of principe gonstruction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principel of economic thrinking in relation to the construction industry. They will acquire basic information about the method of principe gonstruction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thrinking in relation to the construction industry.  132SM3 Structural Mechanics 3 Z,ZK 5 Beformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of load defects. The properties of concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete structures design of soncrete reinforcement of this course. An introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).  133NNKB Fundamentals of Structural Design - Concrete to the soperity of designing steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the determination of load effects. The properties of concrete inforcement of this course, an							
conditions, types of foundations, requirements, building plinth area (construction details). Basement -solution of basement walls, requirements, protection against water, waterproofing systems.          2011       The aim of the course is to provide students with an introduction to economics and management in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic construction company. Emphasis is placed on understanding the principle of economic thinking in relation to the construction industry.         132SM3       Structural Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures using the principle of virtual works.       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete, the production and testing of concrete, the production and testing of concrete terinforcement and its intraction to load effects, design and reinforcement and issued and wooken load-bearing structures according to applicable standards, including thatense, basic addition of load effects, the productory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Materials, Building Materials, Building Materials, Building Materials,		0	ciples construction	on details ra	1	·	-
systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settlement, construction details. Roof truss systems.          226EKMN       Economics and Management       ZZK       7         The aim of the course is to provide students with an introduction to economics and management in the construction industry and to familiarize them with basic economic terms and their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thrinking in relation to the construction industry.         132SM3       Structural Mechanics 3       ZZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures to the Structural Design - Concrete       ZZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete in devictory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Structures).       3         134NNK0       Design of Supporting Structures - Steel       ZZK       3         The basics of designing steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the de					•	•	
Rod truss systems.         Z,K         7           126E KMN         Economics and Management         Z,ZK         7           The aim of the course is to provide students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic terms and their practical applications. Students will be prepared to solve basic construction company. Emphasis is placed on understanding the principle of economic thrinking in relation to the construction industry.           132SM3         Structural Machanics 3         Z,ZK         5           Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures using the principle of virtual works.         133NNKE         Fundamentals of Structural Design - Concrete         Z,ZK         4           The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete structures to table types of loading (bending, shear, pressure) are the main part of this course. The course flows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).           134NNKO         Design of Supporting Structures - Steel         Z,ZK         7           134NNKO<							
126EKMN       Economics and Management       Z,ZK       7         The aim of the course is to provide students with an introduction to economics and management in the construction industry and to familiarize them with basic economic terms and their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry.         132SM3       Structureal Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures or ladic true dual works.       133NNKB         The content of the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures calculation of displacements of beams, frames, and truss structures of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete, the production and testing of concrete, the properties of concrete tructures for basic types of loading (beding, shere, pressure) are the main part of this course. An introduction to serviceability limit states is in the end of this course. Interval trues structures for basic structures is the end of the solging of Stupporting Structures!       3         133NNKB       Fundamentals       Structures!       Structures!       3         146fects. The properties of concrete, the production service		in joints in buildings - principles of joints design in bearing structures, thermal expansio	n, compensation	of unlerend	Jes in settien		iction details.
The aim of the course is to provide students will be prepared to solve basic construction-management in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thinking in relation to the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thinking in relation to the construction industry. They will acquire basic information about the method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures using the principle of virtual works.          133NNKB       Fundamentals of Structural Design - Concrete         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. An introduction to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures and wooden load-bearing structures according to applicable standards, including the determination of load effects, design differences due to the specific properties of individual materials.         136DSUZ       Transport Structures and Wooden load-bearing structures according to applicable standards, includ		onomics and Management			7	76	7
their practical applications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire basic information about the method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thinking in relation to the construction industry.          132SM3       Structural Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures are the basics of load-bearing concrete structures design methodology according to valid standards, including the determination of load effects. The properties of concrete, the production and testing of concrete, the properties of concrete structures of solary of concrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. An introduction to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).       3         134NNKO       Design of Supporting Structures I - Steel       Z,ZK       7         The course 136DSUZ is composed of 3 issues, which build on each other and complement each other. These are the area of transport structures (roads and rail transport - scope 3 +1) and the area of urban planning and spatial planning (scope 2+0). Unlike the road, construction and related legislative and technical regulations, their impact on road design. Design categories of roads and motorways, edisping pated, direction to basic terminology, uses of railway crossings. Transport Structures			a inductry and to	fomiliorizo t		·	
method of pricing construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the principle of economic thinking in         132SM3       Structural Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures. Using the principle of virtual works.         133NNKB       Fundamentals of Structural Design - Concrete       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures I - Steel       Z,ZK       3         The basics of designing steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the determination of load effects, design differences due to the specific properties of roads and materials.       7         Transport Structures - Road K (P): Introduction to basic terminology in the part of roads, history. Road Act and related legislative and technical regulations, their impact on road design, Design categories of roads and motorways, design speed, directional and elevation design of routes, cross-sectional layout of roads and motorway		5	•				
relation to the construction industry.          132SM3       Structural Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures using the principle of virtual works.         133NNKB       Fundamentals of Structural Design - Concrete       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The production and testing of concrete, the properties of concrete mean part of this course. An introduction to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures 1. Steel       Z,ZK       3         The basics of designing steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the determination of load effects, design differences due to the specific properties of individual materials.       3         136DSUZ       Transport Structures and Urban Planning       Z,ZK       7         The course 136DSUZ is composed of 3 issues, which build on each other and complement each other. These are the area of transport structures (reads and motorways, earthwork - dimensions, shapes, drainage. Urban roads, division and marking, definition of MK space, differences in design, operation and relate legislative and tech					•		
132SM3       Structural Mechanics 3       Z,ZK       5         Deformation and force method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation of displacements of beams, frames, and truss structures during the principle of virtual works.         133NNKB       Fundamentals of Structural Design - Concrete       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete, the production and testing of concrete, the production and testing of concrete, the production to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures - Steel       Z,ZK       3         136DSUZ       Transport Structures and Urban Planning       Z,ZK       7         136DSUZ       Transport Structures and Urban Planning (scope 2+0). Unlike the road construction and railroad construction sections, the urban planning section design speed, direction and realing, elegin, sheel, steel-incorcet and with credit. Transport Structures - Roads (R): Introduction to basic terminology in the part of roads, history. Road Act and related legislative and technical regulations, their impact on road design. Design categories of roads and motorways, design appead, directional and elevation design or protes, cross-sectional layout of roads and motorways, desing and peration. Transport Structures - Roads (			is is placed off ul	Iderstandin	g the princip		lic ullinking in
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frames, and truss structures using the principle of virtual works.       Z,ZK       4         133NNKB       Fundamentals of Structural Design - Concrete       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete, the properties of concrete reinforcement and its interaction with concrete are discussed. Design and reinforcement of concrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. An introduction to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures according to applicable standards, including the determination of load effects, design differences due to the specific properties of individual materials.       Z,ZK       3         The course 136DSUZ       Transport Structures and Urban Planning       Z,ZK       7         The acres of trade of urban planning and spatial planning (scope 240). Unlike the road construction and railroad construction sections, the urban planning section does not end with credit.       Transport Structures - Roads (R): Introduction to basic terminology in the part of roads, history. Road Act and related legislative and technical regulations, their impact on road design.         Design of roads and motorways, design speed, differences in design, operation and equipment.       Grads and motorways, design proced, differences in design, oper					1	·	-
133NNKB       Fundamentals of Structural Design - Concrete       Z,ZK       4         The content of the subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, including the determination of load effects. The properties of concrete, the production and testing of concrete, the properties of concrete reinforcement and its interaction with concrete are discussed. Design and reinforcement for concrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. An introduction to serviceability limit states is in the end of this course. The course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Materials, Building Structures).         134NNKO       Design of Supporting Structures - Steel       Z,ZK       3         The basics of designing steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the determination of load effects, design differences due to the specific properties of individual materials.       7         The course 136DSUZ       Transport Structures and Urban Planning       Z,ZK       7         The source 136DSUZ is composed of 3 issues, which build on each other and complement each other. These are the area of transport structures (roads and rail transport - scope 3+1) and the area of urban planning and spatial planning (scope 2+0). Unlike the road construction and railroad construction sectional avoid browsy, earthwork - dimensions, shapes, drainage. Urban roads, division and marking, definition of MK space, differences in design, operation and equipment. Carriageway, division, design principles. Safety equipment, junctions and drossing		•	ames, and truss s	structures.	Jalculation o	t displaceme	ents of beams,
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Tram transport - history, principles of tram track construction, interaction with the environment. Metro as a system of urban rail transport. Basic principles and parameters, metro lines. Railway constructions - an introduction to the design and construction of a railway track in the conditions of the Czech Republic, the basic elements of the railway superstructure. Spatial Planning (SP): Teaching spatial planning and urban planning, spatial planning tools and procedures for their acquisition. Name of the block: Povinná t lesná výchova, sportovní kurzy Minimal number of credits of the block: 0	drainage. Urban roads, divisi	ion and marking, definition of MK space, differences in design, operation and equipme	nt. Carriageway, c	division, des	sign principle	s. Safety eq	uipment,
Railway constructions - an introduction to the design and construction of a railway track in the conditions of the Czech Republic, the basic elements of the railway superstructure. Spatial Planning (SP): Teaching spatial planning and urban planning, spatial planning tools and procedures for their acquisition.	junctions and crossings. Tran	sport Structures - Rail transport (RT): Introduction to basic terminology, Issues of railwa	ay crossings from	the point of	view of secu	irity, design a	and operation.
Planning (SP): Teaching spatial planning and urban planning, spatial planning tools and procedures for their acquisition. Name of the block: Povinná t lesná výchova, sportovní kurzy Minimal number of credits of the block: 0	Tram transport - history, prin	ciples of tram track construction, interaction with the environment. Metro as a system of	f urban rail transp	oort. Basic	orinciples an	d parameter	s, metro lines.
Name of the block: Povinná t lesná výchova, sportovní kurzy Minimal number of credits of the block: 0	Railway constructions - an in	troduction to the design and construction of a railway track in the conditions of the Czec	h Republic, the ba	asic elemen	ts of the rail	vay superstr	ucture. Spatial
Minimal number of credits of the block: 0	Planning (SP): Teaching spa	tial planning and urban planning, spatial planning tools and procedures for their acquis	ition.				
Minimal number of credits of the block: 0							
Minimal number of credits of the block: 0	Name of the bloc	k: Povinná t Jesná výchova, sportovní kurzy					
The role of the block: PT	Minimal number of	of credits of the block: U					
	The role of the bl	ock: PT					

# Code of the group: BTV\_POV

Name of the group: Povinná t lesná výchova

Requirement credits in the group:

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

Credits in the group: 0

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
TV1	Physical Education	Z	0	0+2	Z	PT
TV2	Physical Education	Z	0	0+2	L	PT

#### Characteristics of the courses of this group of Study Plan: Code=BTV\_POV Name=Povinná t lesná výchova

TV2 Physical Education Z 0	TV1	Physical Education	Z	0
		Physical Education	Z	0

Name of the block: Jazyky Minimal number of credits of the block: 3 The role of the block: J

#### Code of the group: BF20190101\_I

Name of the group: Povinn volitelný jazyk, 1. semestr

Requirement credits in the group: In this group you have to gain at least 1 credit

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

Credits in the group: 1

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
104YCA1	English 1 Karolína Synková, Alexandra Steinerová, Elena Da eva, Jarmila Fu íková, Sandra Giormani, Hana Horká, Petra Martincová, V ra ermáková, Michaela Németh, Svatava Boboková Bartíková Sandra Giormani (Gar.)	Z	1	2C	Z,L	J
104YCN1	<b>German 1</b> Svatava Boboková Bartíková <b>Svatava Boboková Bartíková</b> Svatava Boboková Bartíková (Gar.)	Z	1	2C	Z,L	J

#### Characteristics of the courses of this group of Study Plan: Code=BF20190101\_I Name=Povinn voliteIný jazyk, 1. semestr

#### 104YCA1 English 1

Ζ English 1 Course code: 104Y CA1 Scope: 0 + 2 (practical sessions) Number of credits: 1 Final assessment: credit The aim of the compulsory English course is to enhance the knowledge of lexis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overall focus is on professional language (i.e., ESP technical style) and communicative competence within the construction industry. The course also seeks to teach students to read technical literature and to be able to produce essential written discourse and to express themselves in writing on issues in their field of study. The end of course requirements are a credit. Literature: Horká Hana, Giormani Sandra, Martincová Petra, Nivenová Renata : Professional English for Civil Engineering (Units 1 - 5)

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104YCN1 German 1

The compulsory course - German Language for Civil Engineering is aimed at practising professional vocabulary within the scope of the construction industry, understanding professional texts, and learning the necessary presentation skills in order to present all relevant professional issues. The end-of-course requirement is a credit. Literature: A.Hanáková, J.Dressel: Deutsch im Bauwesen

#### Code of the group: BF20190202\_I

Name of the group: Povinn volitelný jazyk, 2. semestr

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

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

#### 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
104YC2A	English 2 Karolína Synková, Alexandra Steinerová, Elena Da eva, Jarmila Fu íková, Sandra Giormani, Hana Horká, Petra Martincová, V ra ermáková, Michaela Németh, Svatava Boboková Bartíková Sandra Giormani (Gar.)	Z,ZK	2	2C		J
104YC2N	German 2 Svatava Boboková Bartíková Sandra Giormani Svatava Boboková Bartíková (Gar.)	Z,ZK	2	2C		J

#### Characteristics of the courses of this group of Study Plan: Code=BF20190202\_I Name=Povinn volitelný jazyk, 2. semestr

104YC2A	English 2	Z,ZK	2		
English 2 Course code: 104YC2A Scope: 0 + 2 (practical sessions) Number of credits: 1 Final assessment: credit and exam The aim of the compulsory English course is to enhance					
the knowledge of lexis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overall focus is on professional language					
(i.e., ESP - technical style) and communicative competence within the construction industry. The course also seeks to teach students to read technical literature and to be able to					
produce essential written discourse and to express themselves in writing on issues in their field of study. The end of course requirements are a credit and an examination. Literature:					
Horká Hana, Giormani Sandra, Martincová Petra, Nivenová Renata : Professional English for Civil Engineering (Units 6 10)					
104YC2N	German 2	Z,ZK	2		
The compulsory course - German Language for Civil Engineering is aimed at practising professional vocabulary within the scope of the construction industry, understanding professional					
texts, and learning the necessary presentation skills in order to present all relevant professional issues. The end-of-course requirement is a credit. Literature: A.Hanáková, J.Dressel:					
Deutsch im Bauwesen					

## List of courses of this pass:

of lexis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overall focus is on professional language (i.e., ESP - technical style) and communicative competence within the construction industry. The course also seeks to teach students to read technical literature and to be able to produce essential withing on issues in heir field of study. The end of course requirements are a credit. Literature: Horká Hana, Gorman Sandra, Martíncová Petra, Nivenová Renata: Professional English for Civil Engineering (Units 1 - 5)           104YCM         German 1         Z         1           The compulsory course - German Language for Civil Engineering is aimed at practising professional issues. The end-of-course requirement is a credit. Literature: A Hanková, J. Dresset: Deutsch im Bauwesen         ZKK         5           105SVAI         Social Sciences and Architecture         ZZK         5           104 sequencies and economics professional issues. The end-of-course requirement is a credit. Literature: A Hanková, J. Dresset: Deutscience profitical philosophy and Iaw, with an overview of the development of architecture. In the section devoted to economics, the basic categories of the market economy, the foundations of economic polica and the basic concepts of international economics are explained. Theoretical interpretation is effectively combined with practical examples from economic realities, policial a balor code. Create attention is paid to selected provisions of the Construction Act. In the policial cience lectures, the policial development in ancient times is described in an engaging way, the theory of the state, policial systems, democracy and totalitarianism are clarified. The series of lectures on the history of architecture and construction.         Z_ZK         4    <	Code	Name of the course	Completion	Credits	
101MA01         Mathematics 1 https://mit.stoc.uc.bube/mit/mit/mit/mit/mit/mit/mit/mit/mit/mit	Projections and projective methods. Axonometry. Oblique projection. Orthogonal axonometry. Displaying prisms, cones, cylinders, pyramids, balls. Simple problems in axonometry. Basics of lighting of solids and groupes of solids. Perspective projection. Curves, parametrisation. Frenet's trihedron, torsion and curvature. Helical surfaces. Quadrics. Surfaces in				
Integrate by contractive contractive databalanting the MID2         Integrate by contractive contractive databalanting the MID2           101MA03         Mathematics 3         Z,ZK         6           102FVI         Physics         Z,ZK         4           This is baic physics course for students of the study programmes CVL Exploreening. Management and Economics in Construction. The course focuses on mechanics and basics and sprancis of a material point (particle). Mechanical vitations. Material deformation because, Acoustics, Hydronechanics.           104YC2A         English 2         Z,ZK         2           104YC2A         English 2         Z,ZK         2           104YC2A         English 2         Z,ZK         2           104YC2A         English 2         Z,ZK         2         4           104YC2A         English 2         Course requirements are other and contains the internaction and the study and university studies in general (Acodemic English 2         Z,ZK         2           104YC2A         English 2         Genran 2         Z,ZK         2         1           104YC2A         English 2         Genran 2         Z,ZK         2         1           104YC2A         English 1         Genran 2         Z,ZK         2         1           104YC2A         English 1         Genran 2         Z,ZK         2<	101MA01	Mathematics 1	Z,ZK	6	
Integrint         Image: Name Second.cet/Nublata/Netalian/Programmers         Image: Name Second Seco	101MA02		Z,ZK	6	
This is baic physics course for students of the study programme CVI Engineering. Management and Econstruction. The course focuses on mechanics, and basics and sharehold bedees. Discrete and continuous model of matter kinematics and sharehold addormatics of a material point (particle). Mechanical force felds, Gravitational feld. Mechanical vibrations. Material deformation, Easiste waves. Acoustics, Hydronechanics, English 2 Cark 2 Ca	101MA03		Z,ZK	6	
English 2 course code: 104YC2A Scope 0.+2 (practical sessions) Number of credits: 1 Final assessment credit and exam T learning the course like to evorall cock as or professional language (a., ESP - technical skyle) and communicative competence within the construction industry. The course also seeks to teach valuents to read technical liferature and to be able to produe essential withen discoper and to perpose themeses in withing on issues in their field of study. The end of course requirements are a credit and an examination. Literature: Industry understanding professional language (a., ESP - technical skyle) and communicative competence within the complexity of the computatory course - German Language for Crelit Englines ing a lane dat proteining professional language. The end of-course requirements are credit and an examination. Literature: A Hanakov, JDresset: Destatch im Bauressan 104YCA1 CA1 Scope 0 + 2 (practical session) Number of credits: The and sesses. The end of-course requirements is a credit. Literature: A Hanakov, JDresset: Destatch im Bauressan 104YCA1 CA1 Scope 0 + 2 (practical sessions) Number of credits: The advectory or valid for a set of the compulsory English course is to enhance the knowledge of lass and grammar within the scope of the construction industry. The course lass besits to lash students to real technical lifetimeture and to be able to produce essential written discourse and to express themselves in writing on issues in their field of study. The or order last final assessment: credit The aim of the compulsory English course is to enhance the knowledge of last and grammar within the scope of the construction industry, understanding professional liseus. The end of-course requirements are a credit and and asset to treat the scheet and english in core set to the scheet and english in core set to be able to produce essential written discourse and to express themselves in writing on issues in their field of study. The end of course requirements are a credit and and asset to tench	This is a basic ph thermodynamics. Th	ysics course for students of the study programmes Civil Engineering; Management and Economics in Construction. The course focu he following areas are covered in the course: Mechanics of material points (particles) and deformable bodies. Discrete and continuous of a material point (particle). Mechanical force fields. Gravitational field. Mechanical vibrations. Material deformation. Elastic waves. An	ses on mechanics us model of matter.	and basic Kinematics	
The compulsory ourse - German Language for CNI Expineering is aimed at practising professional vocabulary within the scope of the construction industry, understanding professional issues. The end-of-course requirement is a credit. Literature: A Hanåkovå, J.Dresset: Deutsch in Bauwesen           104YCA1         English 1         Z         1           English 1         English 1         English 1         Z         1           English 1         English 1         English 1         Z         1           Internoticity 2         Internoticity 2         Internoticity 2         1         1           Internoticity 2         Internoticity 2         Internoticity 2         1         1           Internoticity 2         Internotici	English 2 Course of the knowledge of I (i.e., ESP - techn	ode: 104YC2A Scope: 0 + 2 (practical sessions) Number of credits: 1 Final assessment: credit and exam The aim of the compulsory exis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overall focu ical style) and communicative competence within the construction industry. The course also seeks to teach students to read technica written discourse and to express themselves in writing on issues in their field of study. The end of course requirements are a credit a	English course is s is on professiona al literature and to l nd an examination	to enhance Il language be able to	
English 12 ourse code: 104Y CA1 Scope: 0 + 2 (practical sessions) Number of credits." I Final assessment: credit The aim of the compulsory English course is to enhance the knowledge of lexis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overal focus is on professional language (i.e., ESP - technical style) and communicative competence within the construction industry. The course also seeks to teach students to read technical literature: Horká Hana, Gorman Sandra, Martincová Petra, Nierovok Renata : Professional English for Civil Engineering (Unit 1 - 5) Tot Petra, Nierovok Isinde a Transition Civil Engineering (Unit 1 - 5) Tot Course - German Language for Civil Engineering is simed at practistical ingo professional suces. The end-of-course requirement is a credit. Literature: A Hanáková, JDressel: Deutsch im Bauwsen Dostra Nierovok English Sinde 12 (Sciences and Acrititecture). Policial philosophy and law, with an overview of the development of architecture. The section develot the convolution sind et transitical economic policies, political philosophy and law, with an overview of the development of architecture. The section develot the concomices and economic policies, political science be also concepts of international economics are explained. Theoretical interpretation is effectively combined with practical examples from economic reality. In the lectures devoled to law, a brief overview of the development of Civic Civic Case and the Civic Code and the Civic Civic Case and the Civic Code as construction in provides a comprehensive interpretation of the history of architecture in and construction provides a comprehensive interpretation of the the civic code and	The compulsory co	urse - German Language for Civil Engineering is aimed at practising professional vocabulary within the scope of the construction indus the necessary presentation skills in order to present all relevant professional issues. The end-of-course requirement is a credit. Liter	try, understanding	professional	
Literation skills in order to present all relevant professional issues. The end-of-course requirement is a credit. Literature: A.Hanáková, J.Dressei: Dutsch im Bauween           DisSVAI         Social Sciences and ArChitecture         Z,ZK         5           The subject combines the teaching of several social sciences: economics and economic policies, political science, political philosophy and law, with an overview of the development of architecture. In the section devoted to economics, the basic categories of the market economy, the foundations of economic policy and the basic concepts of international economics are explained. Theoretical interpretation is effectively combined with practical examples from economic reality. In the lectures devoted to law, with an overview of the development of Roman law and its institutions is supplemented by a well-founded interpretation of the constitution, human rights and the labor code. Great attention is paid to selected provisions of the Civil Code and the Construction Act. In the political science lectures, the political development in ancient times is described in an engaging way, the theory of the state, political systems, democracy and totalitarianism are clarified. The series of lectures on the history of architecture and construction provides a comprehensive interpretation of the instruct or architecture from antiquity to postmodernism and deconstruction.         Z,ZK         4           11         Chermistry         Z,ZK         4           11         Building Materials         JZ,ZK         5           123CHE         Building Structures of materials. Application of materials in building constructions to materia	English 1 Course code: 104Y CA1 Scope: 0 + 2 (practical sessions) Number of credits: 1 Final assessment: credit The aim of the compulsory English course is to enhance the knowledge of lexis and grammar within the scope of the chosen field of study and university studies in general (Academic English); the overall focus is on professional language (i.e., ESP - technical style) and communicative competence within the construction industry. The course also seeks to teach students to read technical literature and to be able to produce essential written discourse and to express themselves in writing on issues in their field of study. The end of course requirements are a credit. Literature: Horká Hana, Giormani Sandra, Martincová Petra, Nivenová Renata : Professional English for Civil Engineering (Units 1 - 5)				
The subject combines the teaching of several social sciences: economics and economic policies, political science, political philosophy and law, with an overview of the development of architecture. In the section devoted to economics, the basic categories of the market economy, the foundations of economic policy and the basic concepts of international economics are explained. Theoretical interpretation is effectively combined with practical examples from economic reality. In the learner science interpretation is paid to selected provisions of the Civil Code and the Construction Act. In the political science lectures, the political development in ancient times is described in an engaging way, the theory of the state, political systems, democracy and totalitarianism are clarified. The series of lectures on the history of architecture from antiquity to postmodernism and deconstruction. <b>123CHE</b> Chemistry Chemistry of environment - water, atmosphere, pedosphere. Chemistry of building materials inorganic binders, glass, ceramic, metals, natural polymers, wood, synthetic polymers on C and Si basis. Introduction to degradation of building materials and to analytical chemistry. <b>123SH01</b> Building Materials U Z,ZK 5 Building materials - basis course. Clasification of the materials. Structure of materials. Main properties of materials. Application of materials in building structures, leaded on the development. <b>124PS11</b> Building Structures 11 Z 4 The concept of design of building structures with a comprehensive consideration of the functional requirements, principles of the structural design of walls, columns, floor structures (functions, requirements, principles of the structural design of walls, columns), floor structures functions, requirements, principles of the structural asystem. Structures 21 Z,ZK 4 Staircases, sloping ramps, lift shafts - requirements, structural and material solutions, basis of typology, design principles, construction details frout design of valls, concrete ceilings). Expansion joints		the necessary presentation skills in order to present all relevant professional issues. The end-of-course requirement is a credit. Liter			
123CHE       Chemistry       Z,ZK       4         Introduction to general chemistry - chemical bond, compounds, reactions, equilibrium. Chemistry of environment - water, atmosphere, pedosphere. Chemistry of building materials - inorganic binders, glass, ceramic, metals, natural polymers, wood, synthetic polymers on C and Si basis. Introduction to degradation of building materials and to analytical chemistry.       123SH01       Building Materials       Z,ZK       5         Building materials - basis course. Clasification of the materials. Structure of materials. Main properties of materials. Application of materials in building constructions. Introduction to material testing.       Z       4         124PSI1       Building Structures 11       Z       4         The concept of design of building structures with a comprehensive consideration of the functional requirements imposed on individual elements. Requirements for building structures, structural system, interaction of elements, spatial effect of the structural system. Vertical load-bearing structures (functions, requirements, principles of the structural design of valts, columns), floor structures (functions, requirements, principles of the structural systems. Structural systems of single and multi-storey buildings, structural systems of long-span structures.       124PSI2       Z,ZK       4         Staircases, sloping ramps, lift shafts - requirements, building plinth area (construction details). Basement - solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures (turcase, sloping ramps, lift shafts - requirements, building plinth area (constr	The subject combi of architecture. In th are explained. The Roman law and its the Civil Code and	nes the teaching of several social sciences: economics and economic policies, political science, political philosophy and law, with an e section devoted to economics, the basic categories of the market economy, the foundations of economic policy and the basic conce coretical interpretation is effectively combined with practical examples from economic reality. In the lectures devoted to law, a brief ov institutions is supplemented by a well-founded interpretation of the constitution, human rights and the labor code. Great attention is a the Construction Act. In the political science lectures, the political development in ancient times is described in an engaging way, th acy and totalitarianism are clarified. The series of lectures on the history of architecture and construction provides a comprehensive i	overview of the de epts of internationa rerview of the deve paid to selected point e theory of the star	evelopment I economics lopment of rovisions of te, political	
Building materials - basis course. Clasification of the materials. Structure of materials. Main properties of materials. Application of materials in building constructions. Introduction to material testing.         124PSI1       Building Structures 1I       Z       4         The concept of design of building structures with a comprehensive consideration of the functional requirements imposed on individual elements. Requirements for building structures, structural system, interaction of elements, spatial effect of the structural system. Vertical load-bearing structures (functions, requirements, principles of the structural design of vaults, wooden ceilings, reinforced concrete ceilings, ceramic concrete ceilings, steel and steel concrete ceilings. Expansion joints in load-bearing systems. Structures 2I       Z,ZK       4         124PSI2       Building Structures 2I       Z,ZK       4         Staircases, sloping ramps, lift shafts - requirements, building plinth area (construction details). Basement - solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settlement, construction details. Roof truss systems.         126BIM1       BIM       Z       1         The course focuses on teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable across different specialisations	Introduction to ger	Chemistry eral chemistry - chemical bond, compounds, reactions, equilibrium. Chemistry of environment - water, atmosphere, pedosphere. Ch	emistry of building	materials -	
124PSI1       Building Structures 1I       Z       4         The concept of design of building structures with a comprehensive consideration of the functional requirements imposed on individual elements. Requirements for building structures, structural system, interaction of elements, spatial effect of the structural system. Vertical load-bearing structures (functions, requirements, principles of the structural design of walls, columns), floor structures (functions, requirements, principles of the structural design of vaults, wooden ceilings, reinforced concrete ceilings, ceramic concrete ceilings, steel and steel concrete ceilings). Expansion joints in load-bearing systems. Structural systems of single and multi-storey buildings, structural systems of long-span structures.       4         124PSI2       Building Structures 2I       Z,ZK       4         Staircases, sloping ramps, lift shafts - requirements, building plinth area (construction details). Basement - solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settlement, construction details. Roof truss systems.         126BIM1       BIM       Z       1         The course focueses on teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable across different specialisations		- basis course. Clasification of the materials. Structure of materials. Main properties of materials. Application of materials in building	· · ·		
conditions, types of foundations, requirements, building plinth area (construction details). Basement - solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settlement, construction details. Roof truss systems.          126BIM1       Z       1         The course focuses on teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable across different specialisations	The concept of des structural system, columns), floor stru concrete 124PSI2	Building Structures 1I ign of building structures with a comprehensive consideration of the functional requirements imposed on individual elements. Requir interaction of elements, spatial effect of the structural system. Vertical load-bearing structures (functions, requirements, principles of ctures (functions, requirements, principles of the structural design of vaults, wooden ceilings, reinforced concrete ceilings, ceramic co e ceilings). Expansion joints in load-bearing systems. Structural systems of single and multi-storey buildings, structural systems of lon Building Structures 2I	ements for building the structural design oncrete ceilings, ste ng-span structures Z,ZK	structures, gn of walls, eel and steel 4	
126BIM1       BIM       Z       1         The course focuses on teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable across different specialisations	conditions, types of foundations, requirements, building plinth area (construction details). Basement - solution of basement walls, requirements, protection against water, waterproofing systems. Structural expansion joints in buildings - principles of joints design in bearing structures, thermal expansion, compensation of differences in settlement, construction details.				
and disciplines of the construction industry. Students will be introduced to data formats, data standards, intellectual property issues, working with digitized documents, raster and vector graphics, open data sources in the Czech Republic, ICT and enterprise systems, information systems for the construction industry, but also the context of BIM in the current construction	The course focuse and disciplines of th	BIM s on teaching basic knowledge in the field of Building Information Management (BIM) in theoretical and practical areas, applicable a e construction industry. Students will be introduced to data formats, data standards, intellectual property issues, working with digitized	cross different spe d documents, raste	cialisations r and vector	

industry in relation to the entire project life cycle and its specifics (delivery, expert focus, phases of construction projects, etc.) The theoretical knowledge is complemented by practical exercises aimed at mastering and understanding the basic principles of object-oriented parametric modelling.

	exercises aimed at mastering and understanding the basic principles of object-oriented parametric modelling.			
126EKMN	Economics and Management	Z,ZK	7	
	urse is to provide students with an introduction to economics and management in the construction industry and to familiarize them with			
	plications. Students will be prepared to solve basic construction-management problems in the construction industry. They will acquire			
method of pricing c	construction works and master the basic methods of managing a construction company. Emphasis is placed on understanding the pri relation to the construction industry.	nciple of economic	thinking in	
132PRPE	Strength of Materials	Z,ZK	6	
Fundamentals of th	he theory of elasticity: stress and strain of straight beams subjected to bending and free torsion, ultimate plastic capacity of a member	r in bending, critica	al loads and	
buckling leng	ths of straight compression members. Basic assumptions, quantities, and equations describing the stress and strain state in 3D cont	inuum, plates and	walls.	
132SM01	Structural Mechanics 1	Z,ZK	6	
Concurrent forces,	force systems acting on rigid bodies in space/plane, moment of a force about a point and line. Supports of a rigid body, reaction force	s. Compound two-	dimensional	
	structures. Trusses. Reaction forces applying the principle of virtual work.		-	
132SM02	Structural Mechanics 2	Z,ZK	6	
	agrams of simple statically determinate plane structures and compound two-dimensional structures. Multiaxially loaded cantilever. De positions of its distribution in a cross section. Equivalence of internal forces. Geometry of mass and areas, centre of gravity and mom		stress and	
132SM3	Structural Mechanics 3	Z,ZK	5	
	rce method for the solution of reactions and internal forces on statically indeterminate beams, frames, and truss structures. Calculation	ı <i>'</i> I	-	
Delormation and to	frames, and truss structures using the principle of virtual works.		s of beams,	
133NNKB	Fundamentals of Structural Design - Concrete	Z,ZK	4	
The content of the	e subject are the basics of load-bearing concrete structures design and the design methodology according to valid standards, includi	ng the determination	on of load	
	perties of concrete, the production and testing of concrete, the properties of concrete reinforcement and its interaction with concrete		-	
	oncrete structures for basic types of loading (bending, shear, pressure) are the main part of this course. An introduction to serviceabi			
	he course follows the introductory subject of Civil Engineering program (Structural Mechanics, Elasticity and Strength, Building Mater	-		
134NNKO	Design of Supporting Structures I - Steel	Z,ZK	3	
The basics of desig	ning steel, steel-concrete and wooden load-bearing structures according to applicable standards, including the determination of load to the specific properties of individual materials.	enecis, design dine	elences que	
135GM01	Geomechanics 1	Z	3	
	s on the understanding of basic geological laws and principles in relation to architecture, civil engineering and urban planning. Empha	- 1		
	ical processes, both endogenous and exogenous, on the rock environment and how the geological situation affects the design of struc	-		
	ent. At the same time, attention is paid to the technical properties of rocks with regard to their practical applications. The course also i			
	the regional geology of the Czech Republic.			
135GM2I	Geomechanics 2I	Z,ZK	5	
Formation of so	ils, basic properties of soils, water in soil, strength and deformation properties of soils and their determination, improvement of soil p	operties, application	on tasks	
136DSUZ	Transport Structures and Urban Planning	Z,ZK	7	
	UZ is composed of 3 issues, which build on each other and complement each other. These are the area of transport structures (roads			
	an planning and spatial planning (scope 2+0). Unlike the road construction and railroad construction sections, the urban planning se			
	is - Roads (R): Introduction to basic terminology in the part of roads, history. Road Act and related legislative and technical regulation of roads and motorways, design speed, directional and elevation design of routes, cross-sectional layout of roads and motorways, ea		-	
<b>a b</b>	roads did inderways, design speed, directional and disvation design of roads, division and equipment. Carriageway, division, design p			
•	ings. Transport Structures - Rail transport (RT): Introduction to basic terminology, Issues of railway crossings from the point of view of			
-	story, principles of tram track construction, interaction with the environment. Metro as a system of urban rail transport. Basic principles		-	
Railway constructio	ons - an introduction to the design and construction of a railway track in the conditions of the Czech Republic, the basic elements of the	railway superstruct	ture. Spatial	
	Planning (SP): Teaching spatial planning and urban planning, spatial planning tools and procedures for their acquisition.			
141HYA	Hydraulics	Z,ZK	5	
A course deals with	n issues of hydrostatics and hydrodynamics with aiming at civil engineering applications. There are analysed tasks related to hydrosta	atic and hydrodyna	mic loading	
	of structures, pipeline flow, open channel flow and groundwater flow.			
142VIZP	Water and Environmental Engineering	Z,ZK	4	
-	g semester, students are introduced to the fields of water engineering, water management and environmental engineering. In particu			
	f water and environmental engineering in close relation to other branches of civil engineering. The course is taught in the form of lectu Natically into 20 blocks according to the different branches of the discipline (13 times water engineering and 7 times environmental en			
	basic problems in the field of hydrology, water supply and water structures, especially dams, hydropower and flood issues. All 4 "wat			
	involved in teaching the course.		in are	
154SG01	Land Surveying in Civil Engineering	Z,ZK	6	
	ze of the Earth, substitutive surfaces, cartographic projections Horizontal and vertical control, coordinate calculations Quality control,		erations in	
build-up Angle and distance measurements Heighting measurements Other geodetic methods in build-up (GNSS, DPZ,) Photogrammetry and laser scanning Thematic mapping				
and present state documentation Geodetic works in build-up State map series of CR and thematic maps for build-up Geographic information systems and spatial planning Cadastre				
	of real estates Laws and decrees for geodesy and build-up in Czech Republic	· · · · · ·	-	
TV1	Physical Education	Z	0	
TV2	Physical Education	Z	0	

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