

Study plan

Name of study plan: Stavební inženýrství, obor Management a ekonomika ve stavebnictví

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Management and Economics in the Building Industry

Garantor of the study branch: doc. Ing. Jiří Novák, CSc.

Program of study: Civil Engineering

Type of study: Bachelor full-time

Required credits: 240

Elective courses credits: 0

Sum of credits in the plan: 240

Note on the plan:

Name of the block: Compulsory courses

Minimal number of credits of the block: 219

The role of the block: Z

Code of the group: BJ20130100

Name of the group: Stavební inženýrství, povinné předměty, 1. 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 5 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
123CH01	Chemistry Jana Nábělková, Martin Keppert, Milena Pavlíková, Jana Nekovářová, Gabriela Štátná Milena Pavlíková Milena Pavlíková (Gar.)	Z,ZK	5	3P+1C	Z,L	Z
101KG01	Constructive Geometry Iva Křivková, Iva Malechová, Iva Slámová, Hana Lakomá, Petra Vacková, Jana Čápková Hana Lakomá Iva Křivková (Gar.)	Z,ZK	5	2P+2C	Z,L	Z
101MA01	Mathematics 1 Iva Křivková, Iva Malechová, Iva Slámová, Petra Vacková, Jana Čápková, Michal Beneš, Ivana Pultarová, Ondřej Zindulka, Zdeněk Šibrava, Zdeněk Šibrava Aleš Někviinda (Gar.)	Z,ZK	6	2P+3C	Z,L	Z
105SVAR	Social Sciences and Architecture Pavel Škranc	Z,ZK	6	4P+1C	L,Z	Z
132SM01	Structural Mechanics 1 Michal Polák, Martin Válek, Daniel Rypl, Anna Kučerová, Matěj Lepš, Jan Sýkora, Jiří Němeček, Jiří Němeček, Hana Sekavová, Matěj Lepš Michal Polák (Gar.)	Z,ZK	6	2P+2C	Z,L	Z

Characteristics of the courses of this group of Study Plan: Code=BJ20130100 Name=Stavební inženýrství, povinné předměty, 1. semestr

123CH01	Chemistry	Z,ZK	5	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.
101KG01	Constructive Geometry	Z,ZK	5	
101MA01	Mathematics 1	Z,ZK	6	
105SVAR	Social Sciences and Architecture	Z,ZK	6	Subject introduces the fundamental principles of several social sciences: Economics, Economic Policy, Political Science and Law with an overview of architectural development. Economic section offers an introduction to market economy, economic policy and international economy. Lectures and seminars dedicated to Political Science explain Theory of state, political systems, democracy and totalitarianism. Law section comprises brief overview of development of Roman law with interpretation of the Constitution, Labor Code and Civil Code.
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 forces. Compound two-dimensional structures. Trusses. Reaction forces applying the principle of virtual work.

Code of the group: BJ20130200

Name of the group: Stavební inženýrství, povinné předměty, 2. semestr

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

Requirement courses in the group: In this group you have to complete at least 5 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
102FY01	Physics Pavel Demo	Z,ZK	5	3P+1C	Z,L	z
101MA02	Mathematics 2 Iva Křivková, Iva Malechová, Iva Slámová, Hana Lakomá, Jana Čápková, Ivana Pultarová, Ondřej Zindulka, Petr Kučera, Aleš Někviada, Zdeněk Skalák Ivana Pultarová (Gar.)	Z,ZK	6	2P+3C	L,Z	z
154SG01	Land Surveying in Civil Engineering Rudolf Urban, Tomáš Křemen Rudolf Urban Rudolf Urban (Gar.)	Z,ZK	6	2P+3C	Z,L	z
123SH01	Building Materials Eva Vejmelková, Alena Vimmrová, Miloš Jerman Miloš Jerman Alena Vimmrová (Gar.)	Z,ZK	5	2P+2C	Z,L	z
132SM02	Structural Mechanics 2 Michal Polák, Martin Válek, Daniel Rypl, Anna Kučerová, Matěj Lepš, Jan Sýkora, Jiří Němeček, Jiří Němeček, Jitka Němečková, Matěj Lepš Michal Polák (Gar.)	Z,ZK	6	2P+2C	L,Z	z

Characteristics of the courses of this group of Study Plan: Code=BJ20130200 Name=Stavební inženýrství, povinné předměty, 2. semestr

102FY01	Physics Mass, structure of matter. Motion of matter, kinematics, dynamics. Force field. Deformations and leak. Oscillations, elastic waves, acoustics. Heat properties of matter.	Z,ZK	5
101MA02	Mathematics 2	Z,ZK	6
154SG01	Land Surveying in Civil Engineering The shape and size of the Earth, substitutive surfaces, cartographic projections Horizontal and vertical control, coordinate calculations Quality control, deviations and tolerations 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	Z,ZK	6
123SH01	Building Materials Building materials - basis course. Classification of the materials. Structure of materials. Main properties of materials. Application of materials in building constructions. Introduction to material testing.	Z,ZK	5
132SM02	Structural Mechanics 2 Internal forces diagrams of simple statically determinate plane structures and compound two-dimensional structures. Multiaxially loaded cantilever. Definition of normal stress and prepositions of its distribution in a cross section. Equivalence of internal forces. Geometry of mass and areas, centre of gravity and moments of inertia.	Z,ZK	6

Code of the group: BJ20130300

Name of the group: Stavební inženýrství, povinné předměty, 3. semestr

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete at least 5 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
136DSUP	Transport Structures and Urban Planning Ludvík Věbr, Martin Lidmila, Ivan Vorel, Václav Jetel, František Pospíšil František Pospíšil Ludvík Věbr (Gar.)	Z,ZK	6	5P+1C	L,Z	z
126EKMN	Economics and Management Petr Kalčev, Jiří Novák, Eduard Hromada, Aleš Tomek, Daniel Macek, Petr Matějka, Renáta Schneiderová Heralová, Vladimíra Nováková Petr Kalčev Petr Kalčev (Gar.)	Z,ZK	7	4P+2C		z
141HYA	Hydraulics Ivana Marešová, Daniel Mattas, Tomáš Píček, Václav Matoušek, Jaroslav Pastorek, Petra Podešvová, Lukáš Svoboda, Vojtěch Bareš, Dalibor Šulc, Václav Matoušek	Z,ZK	5	2P+2C	Z,L	z
101MA03	Mathematics 3 Iva Malechová, Michal Beneš, Ivana Pultarová, Ondřej Zindulka, Petr Kučera, Aleš Někviada, Martin Hála, Martin Soukenka, Monika Rencová, Michal Beneš Michal Beneš (Gar.)	Z,ZK	6	3P+2C	Z,L	z
132PRPE	Strength of Materials Pavel Tesárek, Tomáš Janda, Tomáš Koudelka, Vladimír Hrbek, Zdeněk Prošek, Milan Jirásek, Michal Šejnoha, Petr Kabele, Pavel Kuklík, Milan Jirásek	Z,ZK	6	3P+2C	Z,L	z

Characteristics of the courses of this group of Study Plan: Code=BJ20130300 Name=Stavební inženýrství, povinné předměty, 3. semestr

136DSUP	Transport Structures and Urban Planning	Z,ZK	6
126EKMN	Economics and Management	Z,ZK	7

141HYA	Hydraulics	Z,ZK	5
Physical properties of water. Hydrostatics - pressure in a gravitational field, applications of the Pascal's law (hydraulic jack), hydrostatic forces, loading of construction by liquids, buoyancy force. Basics of hydrodynamics - characteristics, regimes and types of water flow, hydraulic resistance, application of basic equations. Pressure flow in pipes - energy losses due to friction, minor losses, simple cases of pipe computations, pipe systems with pump, formation of a water hammer. Steady flow in open channels - uniform flow, hydraulic design of a channel, critical flow, longitudinal profiles of water level. Hydraulics of structures - outflow from an orifice and from a pipe system, flow through culverts and bridge openings. Forces due to water in motion. Water flow measurement. Groundwater flow - types, effects, filtration law, solving of a seepage.			
101MA03	Mathematics 3	Z,ZK	6
132PRPE	Strength of Materials	Z,ZK	6

Code of the group: BJ20170400

Name of the group: Stavební inženýrství, povinné předměty, 4. semestr

Requirement credits in the group: In this group you have to gain 30 credits

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

Credits in the group: 30

Note on the group: rozdělení 133NNK

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
124PS01	Building Structures 1 Petr Hájek, Jiří Pazderka, Jan Růžička, Ctislav Fiala, Martina Zapletalová, Michal Ženišek, Tomáš Dobrovolný, Aneta Libecajtová, Jaroslav Vychytil, Jiří Pazderka Petr Hájek (Gar.)	Z,ZK	7	4P+2C	Z,L	z
132SM3	Structural Mechanics 3 Jan Sýkora, Tomáš Plachý, Tomáš Koudelka, Milan Jirásek, Michal Šejnoha, Petr Kabele, Pavel Kuklík, Eva Novotná, Lenka Melzerová, Milan Jirásek	Z,ZK	5	2P+2C	L,Z	z
133NNKB	Fundamentals of Structural Design - Concrete Martin Típka, Jitka Vašková, Radek Štefan, Michal Števula, Kateřina Janžurová Martin Típka Martin Típka (Gar.)	Z,ZK	4	2P+1C	L,Z	z
134NNKO	Design of Supporting StructuresI - Steel František Wald, Martina Eliášová Michal Jandera Martina Eliášová (Gar.)	Z,ZK	3	2P+1C	L	z
135GEMZ	Geology and soil mechanics Ivan Vaniček, Jan Salák, Svatoslav Chamra, Jan Schröfel, Jan Valenta Daniel Jirásko Ivan Vaniček (Gar.)	Z,ZK	7	4P+2C	Z,L	z
142VIZP	Water and Environmental Engineering Aleš Havlík, Karel Vrána, Petr Valenta, Petr Nowak, Tomáš Dostál, Martin Dočkal, Josef Krása, Adam Vokurka, Martin Šanda, Ladislav Satrapa (Gar.)	Z,ZK	4	3P+1C	Z,L	z

Characteristics of the courses of this group of Study Plan: Code=BJ20170400 Name=Stavební inženýrství, povinné předměty, 4. semestr

124PS01	Building Structures 1	Z,ZK	7
132SM3	Structural Mechanics 3	Z,ZK	5
133NNKB	Fundamentals of Structural Design - Concrete	Z,ZK	4
134NNKO	Design of Supporting StructuresI - Steel	Z,ZK	3
135GEMZ	Geology and soil mechanics	Z,ZK	7
142VIZP	Water and Environmental Engineering	Z,ZK	4

Code of the group: BE20130500

Name of the group: obor Management a ekonomika ve stavebnictví, 5. semestr

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete at least 5 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
122TSE1	Technology of Construction - E1 Václav Pospíchal, Rostislav Šulc, Pavel Neumann Rostislav Šulc Václav Pospíchal (Gar.)	Z,ZK	7	4P+2C	Z	z
126AES	Applied and Economic Statistics Daniel Macek, Daniela Jarušková, Božena Kadeřábková Božena Kadeřábková Daniel Macek (Gar.)	Z,ZK	7	3P+3C	Z	z
126KAN1	Costing and Bidding 1 Renáta Schneiderová Heralová, Iveta Střelcová Lucie Brožová Renáta Schneiderová Heralová (Gar.)	Z,ZK	5	2P+2C	Z,L	z
126RSP	Building Management Dana Měšťanová, Jaroslava Tománková, Zita Prostějovská Dana Měšťanová Zita Prostějovská (Gar.)	Z,ZK	6	4P+2C	Z	z

135ZSVT	Foundations <i>Jan Valenta, Jan Kos, Josef Jettmar, Jan Masopust, Jan Masopust Jan Masopust Josef Jettmar (Gar.)</i>	Z,ZK	5	2P+2C	Z	z
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Characteristics of the courses of this group of Study Plan: Code=BE20130500 Name=obor Management a ekonomika ve stavebnictví, 5. semestr

122TSE1	Technology of Construction - E1 Earthwork, design of pit excavation and supporting's technologies. Design of formwork. Concrete mixer plant, concrete conveying, concreting. Brickwork's technologies, Roofing work, tin work.	Z,ZK	7
126AES	Applied and Economic Statistics Statistic inference, theory of probability, time series, correlation and regression analysis, indexes and its economic interpretation	Z,ZK	7
126KAN1	Costing and Bidding 1 Organization and norms setting in construction firm, analysis of construction processes, labor consumption - classification, methods of time analysis, setting the norms of labor consumption, breakdown of labor costs. Wage systems, legal regulation of wages, internal company regulations, catalogue of trades and workers activities, cost classification, standard estimation methods and techniques, methods of absorption estimates, dynamisation methods.	Z,ZK	5
126RSP	Building Management Compendium of basic concepts and Project Management context. Methods for proceeding support. Legal rules, ČSN and ISO specifications. Basic aspects of Project Management. Construction as a product of Build-up Project. Purposes, strategies, stages and surround of Build-up Project. Status of Project Manager. Purchases and treaties in Project. Quality Management, Risk Management. Financial Management and Project Assessment. Feasibility Study. Project Management in light of time, sources and costs. Claim Management. Territorial planning and construction code law, public procurement law, definition of terms. Commercial contractual relationships, making a contract, forms of contracts, usage of general terms and conditions utilization. Public tender and its impact on the liabilities of the participants. Securing of a liability - penalty, guarantee. Main contract types in construction - contract of the conclusion of a future contract, purchase contract, contract for work, Contents of the contract.	Z,ZK	6
135ZSVT	Foundations	Z,ZK	5

Code of the group: BE20140600

Name of the group: obor Management a ekonomika ve stavebnictví, 6. semestr

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete at least 5 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) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
124KKT	Completing Constructions <i>Běla Stibůrková, Hana Gattermayerová, Šárka Šilarová, Malila Noori Šárka Šilarová Hana Gattermayerová (Gar.)</i>	Z,ZK	6	2P+3C	L	z
125TBU	Building services systems 1 <i>Ilona Koubková, Karel Kabele, Karel Papež, Zuzana Veverková, Hana Kabrhelová, Stanislav Frolík Hana Kabrhelová Ilona Koubková (Gar.)</i>	Z,ZK	4	2P+2C	L	z
126KN2E	Costing and Bidding 2E <i>Renáta Schneiderová Heralová Renáta Schneiderová Heralová Renáta Schneiderová Heralová (Gar.)</i>	Z,ZK	6	2P+3C	L	z
126MF1	Management in Construction Company 1 <i>Zita Prostějovská, Václav Tatýrek, Martin Časenský Zita Prostějovská Zita Prostějovská (Gar.)</i>	Z,ZK	6	3P+2C	L	z
126PPRI	Computing in Construction Management <i>Petr Matějka, Petr Dlask Petr Dlask Petr Dlask (Gar.)</i>	Z,ZK	8	2P+5C	L	z

Characteristics of the courses of this group of Study Plan: Code=BE20140600 Name=obor Management a ekonomika ve stavebnictví, 6. semestr

124KKT	Completing Constructions	Z,ZK	6
125TBU	Building services systems 1 Basic course in building services systems - water supply, drainage, gas supply, heating and ventilation systems.	Z,ZK	4
126KN2E	Costing and Bidding 2E Price and its importance, price factors, price strategies, types of contract, estimating at different stages of project, price setting data. Price creation - oriented to costs, demand and competition, method of price creation. Methods of creating the bid price. Labor and equipment rates per hour. IT support for estimating. Engineering and design activities pricing.	Z,ZK	6
126MF1	Management in Construction Company 1 The course provides a general overview of the problems of a business in the construction industry. The student is familiar and works actively with concepts strategy, strategic analysis, management - top, middle and operational; planning at all levels and implementation plans, organizational structure, management levels in the company, controlling, human resources management, marketing, process and project management, risk management in the company.	Z,ZK	6
126PPRI	Computing in Construction Management In the frame of the course the students create dynamic model of the building (residential, commercial,...). It is a degradation model of ageing. The students use mathematical/simulation method KSIM - MDM (Modified Dynamic Model). Next students create management strategy for the model. They can use internal interaction, external intervention, manager's decisions. The model is created in the VBA of the MS Excel. The scheme of the course is also oriented on simulation methods applied for managing and technological processes.	Z,ZK	8

Code of the group: BE20130700

Name of the group: obor Management a ekonomika ve stavebnictví, 7. semestr

Requirement credits in the group: In this group you have to gain 30 credits

Requirement courses in the group: In this group you have to complete at least 7 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
124PE1	Structural design project E Běla Stibůrková, Šárka Šilarová, Malila Noori Jiří Pazderka Jiří Pazderka (Gar.)	KZ	4	4C	Z	z
126MF02	Management in Construction Company 2 Zita Prostějovská, Jana Frková Zita Prostějovská Jana Frková (Gar.)	Z,ZK	7	3P+3C	Z	z
126PKAN	Estimating and Bidding Project Iveta Střelcová Dana Čáповá (Gar.)	KZ	4	4C	Z	z
126PRS	Construction Planning and Management Jaroslava Tománková, Lucie Brožová, Dana Čáповá Lucie Brožová Dana Čáповá (Gar.)	Z,ZK	5	2P+3C	L	z
133BZKE	Concrete and Masonry Structures E Michaela Frantová Michaela Frantová Michaela Frantová (Gar.)	Z,ZK	5	2P+2C	Z	z
134ODKV	Steel and Timber Structures Michal Netušil, Anna Kuklíková Michal Netušil Anna Kuklíková (Gar.)	Z,ZK	5	2P+2C	Z,L	z
100ODPR	Industrial Training (3 weeks) Petr Hájek, Jan Růžička Eduard Hromada Michal Jandera (Gar.)	Z	0	6C	Z,L	z

Characteristics of the courses of this group of Study Plan: Code=BE20130700 Name=obor Management a ekonomika ve stavebnictví, 7. semestr

124PE1	Structural design project E	KZ	4
126MF02	Management in Construction Company 2 The subject is divided into two follow-up parts: Financial Accounting and Investments. The first part introduces importance, accounting function, accrual principle for whom accounting information is intended, financial x management accounting, interconnection for tax purposes, legislation - Czech standards, IFRS, US GAAP. Balance Sheet, Active and Passive Accounts, Balance Sheet and Accounting, Profit, Profit and Loss Accounts, Financial Statements, Operating Profit, Financial. Distribution of profit. Distinction of costs and revenues. Incomplete production in construction. Depreciation of assets - methods of accounting depreciation, tax depreciation. Financial property. Cash Flow - indirect method.	Z,ZK	7
126PKAN	Estimating and Bidding Project Stand-alone project (complex case example) oriented on putting together the bid budget of real existing project and its drawings and specs. Preparation of LOQ and itemized controlling budget of employer	KZ	4
126PRS	Construction Planning and Management Construction project management, project life cycle, engineering, design phase, methods of time scheduling, cost management, procurement systems and contracts, contractor management. Safety, quality and environmental management.	Z,ZK	5
133BZKE	Concrete and Masonry Structures E	Z,ZK	5
134ODKV	Steel and Timber Structures Steel structures - pros and contras, material properties, fabrication, connections, industrial steel buildings, cables, high strength steel, buildings in terms of water engineering - load, protection, utilization. Timber - loadings, material propertie, limit states methodology, design, connections, bracings, protection of structural timber, timber bridges.	Z,ZK	5
100ODPR	Industrial Training (3 weeks)	Z	0

Code of the group: BE20130800

Name of the group: obor Management a ekonomika ve stavebnictví, 8.semestr

Requirement credits in the group: In this group you have to gain 13 credits

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

Credits in the group: 13

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
126FIK	Financial Management, Capital Investment, Contracting Aleš Tomek, Radan Tomek Aleš Tomek Aleš Tomek (Gar.)	Z,ZK	8	3P+3C	L	z
126PRSP	Construction Planning and Management Project Renáta Schneiderová Heralová, Jaroslava Tománková, Dana Čáповá Dana Čáповá Dana Čáповá (Gar.)	KZ	5	4C	L	z

Characteristics of the courses of this group of Study Plan: Code=BE20130800 Name=obor Management a ekonomika ve stavebnictví, 8.semestr

126FIK	Financial Management, Capital Investment, Contracting Basic course of financial management, specifically focused on management in the construction sector. Emphasis is placed on methods of financing and accounting at enterprise, division and project level. Explanation of the interconnection of financial management and the realization of construction contracts in the wider framework of standard contracting and project management elements is also part of the course.	Z,ZK	8
126PRSP	Construction Planning and Management Project Complex project of construction preparation, planning, technical preparation and simulation of building execution on the basis of individual assignment for each student.	KZ	5

Name of the block: Povinná tělesná výchova, sportovní kurzy

Minimal number of credits of the block: 0

The role of the block: PT

Code of the group: BTV_POV

Name of the group: Povinná tělesná 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) <i>Tutors, authors and guarantors (gar.)</i>	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 tělesná výchova

TV1	Physical Education	Z	0
TV2	Physical Education	Z	0

Name of the block: Elective courses

Minimal number of credits of the block: 0

The role of the block: V

Code of the group: BF2013_KG

Name of the group: Výběrová konstruktivní geometrie

Requirement credits in the group:

Requirement courses in the group:

Credits in the group: 0

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
101YKG	Constructive Geometry - Selective Course	Z,ZK	5	2P+2C	Z	V

Characteristics of the courses of this group of Study Plan: Code=BF2013_KG Name=Výběrová konstruktivní geometrie

101YKG	Constructive Geometry - Selective Course	Z,ZK	5
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Name of the block: Compulsory elective courses

Minimal number of credits of the block: 5

The role of the block: S

Code of the group: BE20140800_1

Name of the group: obor Management a ekonomika ve stavebnictví, povinně volitelné předměty

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

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

Credits in the group: 5

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) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
126MCC	Management in Construction Company <i>Aleš Tomek, Radan Tomek Petr Matějka Aleš Tomek (Gar.)</i>	Z,ZK	5	2P+2C	L	s
126YIPO	Small Business Management <i>Jana Frková Jana Frková Jana Frková (Gar.)</i>	Z,ZK	5	2P+2C	L	s
126YSSP	Construction Cost Estimating Software <i>Lucie Brožová, Dana Čápková Lucie Brožová Dana Čápková (Gar.)</i>	Z,ZK	5	2P+2C	L	s
126YZP	Fundamentals of Innovative Entrepreneurship <i>Dana Měšťanová, Václav Tatýrek, Pavel Švejda Pavel Švejda Dana Měšťanová (Gar.)</i>	Z,ZK	5	2P+2C	L	s

Characteristics of the courses of this group of Study Plan: Code=BE20140800_1 Name=obor Management a ekonomika ve stavebnictví, povinně volitelné předměty

126MCC	Management in Construction Company	Z,ZK	5
1. Nature of Construction Business 2. Primary Causes of Business Failure, External and Internal Influences 3. Business Strategies to Minimize the Risk of Business Failure 4. Business Development, Marketing and Bidding 5. Planning & Control Strategies 6. Project Delivery Methods 7. Financial Management in Construction 8. Construction Risk Management 9. Leadership Challenges 10. Organizational Behavior 11. Corporate & Employee Ethics 12. Company Performance Checklist 13. Managing Profitable Construction Business – Summary of Acquired Knowledge			
126YIPO	Small Business Management	Z,ZK	5
The aim of the subject is to provide information necessary for entrepreneurial activity and to support and develop students' entrepreneurial thinking. Provide an objective and comprehensive view of business in the Czech Republic. Point out the business mistakes that cause high mortality. Students will acquire the knowledge necessary for establishing various forms of business subjects, knowledge necessary for orientation in tax matters, insurance payments, labor law relations. Topics: Modern business history, business environment in the Czech Republic and comparison with other countries. Small Business Specifics - Benefits - Disadvantages - Opportunities - Threats. Successful entrepreneurs and their secrets of success. The personality of the entrepreneur and the reasons for his failure. The life cycle of a small business and the crisis of growth. Building a small business. Management and planning in a small business. Leadership. Business idea, vision and mission. Business plan. Intuitive marketing. Financial resources for business. Establishment of a business entity - legal minimum. Issues of income tax and VAT, social and health insurance business - tax minimum.			
126YSSP	Construction Cost Estimating Software	Z,ZK	5
The teaching is focused on familiarization with cost calculation SW for item preparation			
126YZP	Fundamentals of Innovative Entrepreneurship	Z,ZK	5
Basic concepts of innovative business, technology transfer and science and technology parks; the innovation process and the role of the tools that influence it; principles of innovation management in the enterprise, application of innovation rules; Innovative Infrastructure System of the Czech Republic; the role of the Ministry of Industry and Trade, VaVal programs; protection of industrial property; Office of Industrial Property; BIM objectives in the construction industry and the importance of Industry 4.0; state of the VaVal legislation; EU operational programs.			

Name of the block: Jazyky

Minimal number of credits of the block: 4

The role of the block: J

Code of the group: BF20130100_J

Name of the group: povinně volitelný jazyk - 1. 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
104YC1A	English 1 Magdalena Žemličková, Svatava Boboková-Bartíková, Věra Čermáková, Petra Florianová, Sandra Giormani, Hana Horká, Libuše Jilemnická, Petra Martincová, Renáta Nivenová, Petra Martincová Svatava Boboková-Bartíková (Gar.)	Z	2	2C	Z,L	J
104YC1F	French 1 Radka Škardová, Marie Robovská Svatava Boboková-Bartíková Radka Škardová (Gar.)	Z	2	2C	Z,L	J
104YC1N	German 1 Daria Šemberová, Svatava Boboková-Bartíková, Helena Chromá Olga Sedláčková Svatava Boboková-Bartíková (Gar.)	Z	2	2C		J
104YC1R	Russian 1 Svatava Boboková-Bartíková	Z	2	2C		J
104YC1S	Spanish 1 Miloslava Menclová	Z	2	2C		J

Characteristics of the courses of this group of Study Plan: Code=BF20130100_J Name=povinně volitelný jazyk - 1. semestr

104YC1A	English 1	Z	2
104YC1F	French 1	Z	2
104YC1N	German 1	Z	2
104YC1R	Russian 1	Z	2
104YC1S	Spanish 1	Z	2

Code of the group: BF20130200_J

Name of the group: povinně 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 Magdalena Žemličková, Svatava Boboková-Bartíková, Věra Čermáková, Petra Florianová, Sandra Giormani, Hana Horká, Šárka Chroustová, Libuše Jilemnická, Petra Martincová, Svatava Boboková-Bartíková Svatava Boboková-Bartíková (Gar.)	Z,ZK	2	2C		J
104YC2F	French 2 Radka Škardová, Marie Robovská Svatava Boboková-Bartíková Svatava Boboková-Bartíková (Gar.)	Z,ZK	2	2C		J
104YC2N	German 2 Svatava Boboková-Bartíková, Helena Chromá Olga Sedláčková Svatava Boboková-Bartíková (Gar.)	Z,ZK	2	2C		J
104YC2R	Russian 2 Věra Čermáková Svatava Boboková-Bartíková Věra Čermáková (Gar.)	Z,ZK	2	2C		J
104YC2S	Spanish 2 Miloslava Menclová	Z,ZK	2	2C		J

Characteristics of the courses of this group of Study Plan: Code=BF20130200_J Name=povinně volitelný jazyk - 2. semestr

104YC2A	English 2	Z,ZK	2
104YC2F	French 2	Z,ZK	2
104YC2N	German 2	Z,ZK	2
104YC2R	Russian 2	Z,ZK	2
104YC2S	Spanish 2	Z,ZK	2

Name of the block: Povinně volitelné předměty, doporučení S1

Minimal number of credits of the block: 12

The role of the block: S1

Code of the group: BE20150800_2

Name of the group: obor Management a ekonomika ve stavebnictví, bakalářská práce

Requirement credits in the group: In this group you have to gain 12 credits

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

Credits in the group: 12

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
126BAPE	Bachelor Thesis Daniel Macek, Renáta Schneiderová Heralová, Zita Prostějovská, Václav Tatýrek Václav Tatýrek Renáta Schneiderová Heralová (Gar.)	Z	12	10C	L,Z	S1

Characteristics of the courses of this group of Study Plan: Code=BE20150800_2 Name=obor Management a ekonomika ve stavebnictví, bakalářská práce

126BAPE	Bachelor Thesis	Z	12
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The bachelor thesis finishes the bachelor study. A student proves that he/she is able to apply the knowledge acquired in the study on the real project. The bachelor thesis connects to the chosen subjects of the study curricula. The partial results are further evaluated and appropriate conclusions are drawn. Min. 4 continuous consultations with the head of bachelor study, where the student submits bachelor study in progress. For students of branch E.

List of courses of this pass:

Code	Name of the course	Completion	Credits
100ODPR	Industrial Training (3 weeks)	Z	0
101KG01	Constructive Geometry	Z,ZK	5
101MA01	Mathematics 1	Z,ZK	6
101MA02	Mathematics 2	Z,ZK	6
101MA03	Mathematics 3	Z,ZK	6
101YKG	Constructive Geometry - Selective Course	Z,ZK	5
102FY01	Physics	Z,ZK	5

Mass, structure of matter. Motion of matter, kinematics, dynamics. Force field. Deformations and leak. Oscillations, elastic waves, acoustics. Heat properties of matter.

104YC1A	English 1	Z	2
104YC1F	French 1	Z	2
104YC1N	German 1	Z	2
104YC1R	Russian 1	Z	2
104YC1S	Spanish 1	Z	2
104YC2A	English 2	Z,ZK	2
104YC2F	French 2	Z,ZK	2
104YC2N	German 2	Z,ZK	2
104YC2R	Russian 2	Z,ZK	2
104YC2S	Spanish 2	Z,ZK	2
105SVAR	Social Sciences and Architecture	Z,ZK	6
Subject introduces the fundamental principles of several social sciences: Economics, Economic Policy, Political Science and Law with an overview of architectural development. Economic section offers an introduction to market economy, economic policy and international economy. Lectures and seminars dedicated to Political Science explain Theory of state, political systems, democracy and totalitarianism. Law section comprises brief overview of development of Roman law with interpretation of the Constitution, Labor Code and Civil Code.			
122TSE1	Technology of Construction - E1	Z,ZK	7
Earthwork, design of pit excavation and supporting's technologies. Design of formwork. Concrete mixer plant, concrete conveying, concreting. Brickwork's technologies, Roofing work, tin work.			
123CH01	Chemistry	Z,ZK	5
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. Classification of the materials. Structure of materials. Main properties of materials. Application of materials in building constructions. Introduction to material testing.			
124KKT	Completing Constructions	Z,ZK	6
124PE1	Structural design project E	KZ	4
124PS01	Building Structures 1	Z,ZK	7
125TBU	Building services systems 1	Z,ZK	4
Basic course in building services systems - water supply, drainage, gas supply, heating and ventilation systems.			
126AES	Applied and Economic Statistics	Z,ZK	7
Statistic inference, theory of probability, time series, correlation and regression analysis, indexes and its economic interpretation			
126BAPE	Bachelor Thesis	Z	12
The bachelor thesis finishes the bachelor study. A student proves that he/she is able to apply the knowledge acquired in the study on the real project. The bachelor thesis connects to the chosen subjects of the study curricula. The partial results are further evaluated and appropriate conclusions are drawn. Min. 4 continuous consultations with the head of bachelor study, where the student submits bachelor study in progress. For students of branch E.			
126EKMN	Economics and Management	Z,ZK	7
126FIK	Financial Management, Capital Investment, Contracting	Z,ZK	8
Basic course of financial management, specifically focused on management in the construction sector. Emphasis is placed on methods of financing and accounting at enterprise, division and project level. Explanation of the interconnection of financial management and the realization of construction contracts in the wider framework of standard contracting and project management elements is also part of the course.			
126KAN1	Costing and Bidding 1	Z,ZK	5
Organization and norms setting in construction firm, analysis of construction processes, labor consumption - classification, methods of time analysis, setting the norms of labor consumption, breakdown of labor costs. Wage systems, legal regulation of wages, internal company regulations, catalogue of trades and workers activities, cost classification, standard estimation methods and techniques, methods of absorption estimates, dynamisation methods.			
126KN2E	Costing and Bidding 2E	Z,ZK	6
Price and its importance, price factors, price strategies, types of contract, estimating at different stages of project, price setting data. Price creation - oriented to costs, demand and competition, method of price creation. Methods of creating the bid price. Labor and equipment rates per hour. IT support for estimating. Engineering and design activities pricing.			
126MCC	Management in Construction Company	Z,ZK	5
1. Nature of Construction Business 2. Primary Causes of Business Failure, External and Internal Influences 3. Business Strategies to Minimize the Risk of Business Failure 4. Business Development, Marketing and Bidding 5. Planning & Control Strategies 6. Project Delivery Methods 7. Financial Management in Construction 8. Construction Risk Management 9. Leadership Challenges 10. Organizational Behavior 11. Corporate & Employee Ethics 12. Company Performance Checklist 13. Managing Profitable Construction Business - Summary of Acquired Knowledge			
126MF02	Management in Construction Company 2	Z,ZK	7
The subject is divided into two follow-up parts: Financial Accounting and Investments. The first part introduces importance, accounting function, accrual principle for whom accounting information is intended, financial management accounting, interconnection for tax purposes, legislation - Czech standards, IFRS, US GAAP. Balance Sheet, Active and Passive Accounts, Balance Sheet and Accounting, Profit, Profit and Loss Accounts, Financial Statements, Operating Profit, Financial. Distribution of profit. Distinction of costs and revenues. Incomplete production in construction. Depreciation of assets - methods of accounting depreciation, tax depreciation. Financial property. Cash Flow - indirect method.			
126MF1	Management in Construction Company 1	Z,ZK	6
The course provides a general overview of the problems of a business in the construction industry. The student is familiar and works actively with concepts strategy, strategic analysis, management - top, middle and operational; planning at all levels and implementation plans, organizational structure, management levels in the company, controlling, human resources management, marketing, process and project management, risk management in the company.			
126PKAN	Estimating and Bidding Project	KZ	4
Stand-alone project (complex case example) oriented on putting together the bid budget of real existing project and its drawings and specs. Preparation of LOQ and itemized controlling budget of employer			
126PPRI	Computing in Construction Management	Z,ZK	8
In the frame of the course the students create dynamic model of the building (residential, commercial,...). It is a degradation model of ageing. The students use mathematical/simulation method KSIM - MDM (Modified Dynamic Model). Next students create management strategy for the model. They can use internal interaction, external intervention, manager's decisions. The model is created in the VBA of the MS Excel. The scheme of the course is also oriented on simulation methods applied for managing and technological processes.			

126PRS	Construction Planning and Management	Z,ZK	5
Construction project management, project life cycle, engineering, design phase, methods of time scheduling, cost management, procurement systems and contracts, contractor management. Safety, quality and environmental management.			
126PRSP	Construction Planning and Management Project	KZ	5
Complex project of construction preparation, planning, technical preparation and simulation of building execution on the basis of individual assignment for each student.			
126RSP	Building Management	Z,ZK	6
Compendium of basic concepts and Project Management context. Methods for proceeding support. Legal rules, ČSN and ISO specifications. Basic aspects of Project Management. Construction as a product of Build- up Project. Purposes, strategies, stages and surround of Build - up Project. Status of Project Manager. Purchases and treaties in Project. Quality Management, Risk Management. Financial Management and Project Assessment. Feasibility Study. Project Management in light of time, sources and costs. Claim Management. Territorial planning and construction code law, public procurement law, definition of terms. Commercial contractual relationships, making a contract, forms of contracts, usage of general terms and conditions utilization. Public tender and its impact on the liabilities of the participants. Securing of a liability - penalty, guarantee. Main contract types in construction - contract of the conclusion of a future contract, purchase contract, contract for work, Contents of the contract.			
126YIPO	Small Business Management	Z,ZK	5
The aim of the subject is to provide information necessary for entrepreneurial activity and to support and develop students' entrepreneurial thinking. Provide an objective and comprehensive view of business in the Czech Republic. Point out the business mistakes that cause high mortality. Students will acquire the knowledge necessary for establishing various forms of business subjects, knowledge necessary for orientation in tax matters, insurance payments, labor law relations. Topics: Modern business history, business environment in the Czech Republic and comparison with other countries. Small Business Specifics - Benefits - Disadvantages - Opportunities - Threats. Successful entrepreneurs and their secrets of success. The personality of the entrepreneur and the reasons for his failure. The life cycle of a small business and the crisis of growth. Building a small business. Management and planning in a small business. Leadership. Business idea, vision and mission. Business plan. Intuitive marketing. Financial resources for business. Establishment of a business entity - legal minimum. Issues of income tax and VAT, social and health insurance business - tax minimum.			
126YSSP	Construction Cost Estimating Software	Z,ZK	5
The teaching is focused on familiarization with cost calculation SW for item preparation			
126YZP	Fundamentals of Innovative Entrepreneurship	Z,ZK	5
Basic concepts of innovative business, technology transfer and science and technology parks; the innovation process and the role of the tools that influence it; principles of innovation management in the enterprise, application of innovation rules; Innovative Infrastructure System of the Czech Republic; the role of the Ministry of Industry and Trade, VaVal programs; protection of industrial property; Office of Industrial Property; BIM objectives in the construction industry and the importance of Industry 4.0; state of the VaVal legislation; EU operational programs.			
132PRPE	Strength of Materials	Z,ZK	6
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 forces. Compound two-dimensional structures. Trusses. Reaction forces applying the principle of virtual work.			
132SM02	Structural Mechanics 2	Z,ZK	6
Internal forces diagrams of simple statically determinate plane structures and compound two-dimensional structures. Multiaxially loaded cantilever. Definition of normal stress and prepositions of its distribution in a cross section. Equivalence of internal forces. Geometry of mass and areas, centre of gravity and moments of inertia.			
132SM3	Structural Mechanics 3	Z,ZK	5
133BZKE	Concrete and Masonry Structures E	Z,ZK	5
133NNKB	Fundamentals of Structural Design - Concrete	Z,ZK	4
134NNKO	Design of Supporting StructuresI - Steel	Z,ZK	3
134ODKV	Steel and Timber Structures	Z,ZK	5
Steel structures - pros and contras, material properties, fabrication, connections, industrial steel buildings, cables, high strength steel, buildings in terms of water engineering - load, protection, utilization. Timber - loadings, material propertie, limit states methodology, design, connections, bracings, protection of structural timber, timber bridges.			
135GEMZ	Geology and soil mechanics	Z,ZK	7
135ZSVT	Foundations	Z,ZK	5
136DSUP	Transport Structures and Urban Planning	Z,ZK	6
141HYA	Hydraulics	Z,ZK	5
Physical properties of water. Hydrostatics - pressure in a gravitational field, applications of the Pascal's law (hydraulic jack), hydrostatic forces, loading of construction by liquids, buoyancy force. Basics of hydrodynamics - characteristics, regimes and types of water flow, hydraulic resistance, application of basic equations. Pressure flow in pipes - energy losses due to friction, minor losses, simple cases of pipe computations, pipe systems with pump, formation of a water hammer. Steady flow in open channels - uniform flow, hydraulic design of a channel, critical flow, longitudinal profiles of water level. Hydraulics of structures - outflow from an orifice and from a pipe system, flow through culverts and bridge openings. Forces due to water in motion. Water flow measurement. Groundwater flow - types, effects, filtration law, solving of a seepage.			
142VIZP	Water and Environmental Engineering	Z,ZK	4
154SG01	Land Surveying in Civil Engineering	Z,ZK	6
The shape and size of the Earth, substitutive surfaces, cartographic projections Horizontal and vertical control, coordinate calculations Quality control, deviations and tolerations 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

For updated information see <http://bilakniha.cvut.cz/en/FF.html>

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