

# Study plan

## Name of study plan: Stavební inženýrství - řízení projekt

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Civil Engineering - Project Management

Type of study: Follow-up master full-time

Required credits: 90

Elective courses credits: 0

Sum of credits in the plan: 90

Note on the plan: platí pro nástup v akad. roku 2023/24

Name of the block: Compulsory courses

Minimal number of credits of the block: 82

The role of the block: Z

Code of the group: NP20230100

Name of the group: Stavební inženýrství - řízení projekt , 1. 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
126INZG	<b>Engineering</b> Dana M š anová, Václav Tatýrek <b>Václav Tatýrek</b> Dana M š anová (Gar.)	Z,ZK	5	2P+2C	Z,L	z
126OCS1	<b>Construction Pricing 1</b> Iveta St elcová, Lucie Brožová, Stanislav Vitásek <b>Lucie Brožová</b> Lucie Brožová (Gar.)	Z,ZK	5	2P+2C	Z	z
126PM1	<b>Project Management 1</b> Michal Vondruška <b>Michal Vondruška</b> Michal Vondruška (Gar.)	Z,ZK	5	3P+1C	Z	z
126MSFP	<b>Managment in Construction Company</b> Martin ásenský <b>Martin ásenský</b> Eduard Hromada (Gar.)	Z,ZK	7	3P+2C	Z	z
126SLEG	<b>Building Legislation</b> Dana M š anová <b>Dana M š anová</b> Dana M š anová (Gar.)	Z	2	2P	Z	z
126PRRS	<b>Construction Planning and Operations Management</b> Lucie Brožová, Jaroslava Tománková <b>Lucie Brožová</b> Lucie Brožová (Gar.)	Z,ZK	6	2P+3C	Z	z

### Characteristics of the courses of this group of Study Plan: Code=NP20230100 Name=Stavební inženýrství - řízení projekt , 1. semestr

126INZG	Engineering	Z,ZK	5
Conceptual and operational management of development projects from perspective of time, resources, cost, analysis of resources, solution design, external examination, investment opportunities study, feasibility study, interest optimization, technological, legal, financial resources, price determination, commercial contractual law, engineering contracts specimens, VOB (Verdingungsordnung für Bauleistungen) delivery conditions used by german investors - FIDIC contractual terms used in international construction practice, contractual determination of performance and quality parameters, contractual sanctions, time realistic plans, territorial, constructional governance, law no. 183/2006 Sb. fulfilment, construction order assignment, investment engineering, supplier engineering, suppliers coordination, financial management, capacity management, quality control, technological regulations, handover proceedings plan, test run operation, parameters fulfilment assessment, construction maintenance planning, marketing, building changes prior completion, building handover and acceptance, handover documentation, performance audit, decision processes and methods, invested energy. BIM. Documentation rules. Insolvency, Social responsibility in construction firms, RIPRAN method.			
126OCS1	Construction Pricing 1	Z,ZK	5
Costs are operation-related consumption of work and resources, valued and expressed in monetary units. The aim of the course is to teach the student to use basic calculation techniques and procedures. Furthermore, use the normative and data base, and adapt the normative base for new materials and technologies, or creating. Basic principles of cost calculation in the construction industry. Organization and standardization of work in the company, production process, time consumption. Standardization of labor consumption, methods of setting standards, examples, documents. Standardization of material consumption, examples, documents. Standardization of the need for machines - productivity, capacity standards, examples, documents. Salary costs - payroll system, job catalog, wage rate calculation. Costs - breakdown of costs, calculation methods and techniques, calculation bases. Dynamic and normative method of calculation, examples, documents. Individual costing - costing formula, content of components, examples, documents. Methods of non-absorption costing (ABC, method of variable costs), examples. Influencing the amount of material costs, wages, machine operation, overhead. Cost modeling, break-even analysis, examples. Managerial concept of costs.			

126PM1	Project Management 1	Z,ZK	5
The subject is focused on important decision-making processes and management processes in the preparation and implementation of construction from the perspective of the owner of the construction project. The goal is to analyze the appropriateness of developer acquisition, project activity, legislative preparation, permitting processes, choice of supplier system, choice of supplier evaluation method, choice of contract form. The main attention will be paid to the comparison of the traditional construction delivery method (Design Bid Build) with current alternative delivery systems (Design Build, Integrated Project Delivery, Construction Management). The teaching is supplemented by a number of case studies.			
126MSFP	Management in Construction Company	Z,ZK	7
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 .			
126SLEG	Building Legislation	Z	2
Territorial planning and construction code law. Public procurement law. Definition of terms. Commercial contractual relationships. Main contract types in construction - contract of the conclusion of a future contract, purchase contract, contract for work, Contents of the contract.			
126PRRS	Construction Planning and Operations Management	Z,ZK	6
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,			

Code of the group: NP20230200

Name of the group: Stavební inženýrství - ízení projekt , 2. semestr

Requirement credits in the group: In this group you have to gain at least 22 credits

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

Credits in the group: 22

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) <i>Tutors, authors and guarantors (Gar.)</i>	Completion	Credits	Scope	Semester	Role
126BIMP	<b>BIM - Information modeling</b> <i>Josef Žák, Robert Bouška Josef Žák Josef Žák (Gar.)</i>	Z,ZK	5	2P+3C	L	z
126OS2P	<b>Construction Pricing 2</b> <i>Iveta St elcová, Renáta Schneiderová Heralová Renáta Schneiderová Heralová Renáta Schneiderová Heralová (Gar.)</i>	Z,ZK	4	2P+2C	L	z
126PM2	<b>Project Management 2</b> <i>Michal Vondruška Michal Vondruška Michal Vondruška (Gar.)</i>	Z,ZK	5	3P+1C	L	z
126FAMG	<b>Facility Management</b> <i>Daniel Macek Daniel Macek Daniel Macek (Gar.)</i>	Z,ZK	4	1P+3C	L	z
126DSP	<b>Diploma Seminar</b> <i>Dana M š anová, Václav Tatýrek, Iveta St elcová, Lucie Brožová, Stanislav Vitásek, Dana ápová, Michal Vondruška, Martin ásenský, Eduard Hromada, ..... Renáta Schneiderová Heralová Renáta Schneiderová Heralová (Gar.)</i>	KZ	4	3C	L	z

**Characteristics of the courses of this group of Study Plan: Code=NP20230200 Name=Stavební inženýrství - ízení projekt , 2. semestr**

126BIMP	BIM - Information modeling	Z,ZK	5
126OS2P	Construction Pricing 2	Z,ZK	4
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.			
126PM2	Project Management 2	Z,ZK	5
The teaching of the subject Project management 2 is focused on the acquisition of project management methods in the implementation of large-scale technological constructions and constructions of transport infrastructure. The curriculum is based on the classical theory of project management according to the PMBOK (Project Management Body of Knowledge) and its application to the construction project management manuals of major construction companies (Best Practice). Detailed attention is paid to the main processes of project management (scope, time, cost, quality, human resources, risk and procurement management). The procedural management of construction projects is supplemented by the current issue of claims management and crisis management of construction projects.			
126FAMG	Facility Management	Z,ZK	4
The aim of the course is to understand the issue of integrated facility management in the context of the currently valid standards SN EN 15221 and SN EN ISO 41001 - Facility management. Students will become familiar with the principles of efficient building operation, including the provision of support activities in the form of in-house and outsourcing. As part of the life cycle of buildings, they solve the issue of operating costs, including maintenance and renewal planning, where they use the Buildpass application. Students will learn to work with the ARCHIBUS CAFM system, from linking the BIM model from the Revit application to solving practical tasks in building management and operation.			
126DSP	Diploma Seminar	KZ	4
The project addresses problems mainly from building practice. The project is preparation for own diploma thesis. The output of the project is the assignment of the topic of the diploma thesis, elaboration of the curriculum, search and study of literature, research and detailed introduction to the solved problems. The student will study the methodological instructions of the Czech Technical University in Prague, how to write university graduate theses - see <a href="http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci">http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci</a> .			

Code of the group: NP20230300

Name of the group: Stavební inženýrství - ízení projekt , diplomová práce

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 1 course

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
126DPM	<b>Diploma Thesis</b> <i>Dana M š anová, Václav Tatýrek, Iveta St elcová, Lucie Brožová, Stanislav Vitásek, Dana ápová, Michal Vondruška, Martin ásenský, Eduard Hromada, ..... Eduard Hromada Václav Tatýrek (Gar.)</i>	Z	30	24C	Z	Z

**Characteristics of the courses of this group of Study Plan: Code=NP20230300 Name=Stavební inženýrství - ízení projekt , diplomová práce**

126DPM	Diploma Thesis	Z	30
In his/her diploma thesis a student deals with topics from civil engineering and construction, economic and management. He/she solves problems both from operational practice and from research and development. A thesis contains a text part, drawings and possibly documentation. In the project conclusion a student will highlight his/her own contribution to the assigned topic. A thesis links to diploma project and augments knowledge gained of it. The student continuously consults the work with the supervisor, when he submits the individual parts in progress.			

**Name of the block: Compulsory elective courses**

**Minimal number of credits of the block: 8**

**The role of the block: PV**

**Code of the group: NP20230200\_1**

**Name of the group: Stavební inženýrství - ízení projekt , PV p edm ty, 2. semestr**

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

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

**Credits in the group: 8**

**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
126YCOC	<b>Construction Contracting</b> <i>Aleš Tomek, Radan Tomek Josef Žák</i>	Z,ZK	2	2P	L	PV
126YEMB	<b>Energy Management</b> <i>Jan Pojar, Ji í Karásek Ji í Karásek (Gar.)</i>	Z,ZK	4	2P+2C	L	PV
126YMCP	<b>Management in Construction Company</b> <i>Aleš Tomek, Radan Tomek Vladimíra Nováková</i>	Z,ZK	4	2P+2C	L	PV
126YOIS	<b>Pricing of Civil Engineering Works</b> <i>Iveta St elcová Iveta St elcová</i>	Z,ZK	2	1P+1C	L	PV
126ZINP	<b>Small Business</b> <i>Jana Frková, Olga Heralová Olga Heralová Jana Frková (Gar.)</i>	Z,ZK	4	2P+2C	L	PV
126YMMR	<b>Management Decision-making Methods</b> <i>Eduard Hromada Eduard Hromada Eduard Hromada (Gar.)</i>	Z,ZK	2	1P+1C	L	PV
126YVEI	<b>Public Investment Construction</b> <i>Renáta Schneiderová Heralová, Zita Prost jovská Zita Prost jovská Renáta Schneiderová Heralová (Gar.)</i>	Z,ZK	2	2P	L	PV
126IMBP	<b>Building Information Management (BIM)</b> <i>Robert Bouška</i>	Z,ZK	4	1P+3C	L	PV
126YPMP	<b>Marketing in the Construction Industry - Project P</b> <i>Kate ina Eklová Kate ina Eklová</i>	KZ	2	2C	L	PV
126ZIPN	<b>Basics of innovative business</b> <i>Dana M š anová Dana M š anová Dana M š anová (Gar.)</i>	Z,ZK	2	1P+1C	L	PV
126YPER	<b>Human resource management</b> <i>Eduard Hromada, Olga Heralová Olga Heralová Michal Vondruška (Gar.)</i>	Z,ZK	2	1P+1C	L	PV
126YBVP	<b>BIM in Public Investments</b> <i>Renáta Schneiderová Heralová</i>	ZK	2	2P	L	PV

**Characteristics of the courses of this group of Study Plan: Code=NP20230200\_1 Name=Stavební inženýrství - ízení projekt , PV p edm ty, 2. semestr**

126YCOC	Construction Contracting	Z,ZK	2
As every project manager in construction business has to be a contract manager at the same time, understanding the contract - respectively contracting in general - is a must. Course of Construction Contracting is oriented on current business practices and methods, management techniques and understanding general legal principles, codes and regulations. It is about doing business in construction using standard procurement systems and applying given types of contracts, respectively standard contracts (e.g. FIDIC). Lectures are based on the real practice experience of both course's lecturers and various case studies are studied and solved.			
126YEMB	Energy Management	Z,ZK	4
The course on energy management covers the issues of management in general, energy management, energy systems, and energy efficiency in the European legislation framework. The main target of the course is to explain basic principles and future changes in the construction industry, specifically in the field of energy efficiency economics. The students will increase their knowledge about strategies towards sustainable energy in buildings and mainly about energy efficiency. A specific part of the course is dedicated to the evaluation of energy efficiency measures, supporting schemes for energy efficiency, tackling energy poverty, multi-criterial evaluation of projects, LCA (live cycle assessment) and LCC (life cycle cost), moreover the students receive overview of the cost optimum calculation.			
126YMCP	Management in Construction Company	Z,ZK	4

126YOIS	Pricing of Civil Engineering Works	Z,ZK	2
Cost database of transportation structures I normative prices, aggregated items Cost database of transportation structures II OTSKP catalogue Schedule of works and bill of quantities requirements and sources Cost estimation of transportation structures basic principles, techniques Financing of transportation structures EU, SFDI, PPP projects Cost analysis of transportation structures real projects and cost categories Engineering constructions from the perspective of contracting authority legal norms (FIDIC) and another legislature Engineering constructions from the perspective of contractor managing of a contract within the construction company Life cycle costs of engineering constructions Economic efficiency of transportation structures Introduction to estimating software for transportation structures Building information modelling (BIM) and estimating requirements, schedule of works International methods of planning, estimating and predicting transportation structure costs			
126ZINP	Small Business	Z,ZK	4
126YMMR	Management Decision-making Methods	Z,ZK	2
126YVEI	Public Investment Construction	Z,ZK	2
Public sector investment project. Evaluation of revenues and costs, income and expenses in individual phases of the life cycle of the construction project. Risk and uncertainty in investment decision-making.			
126IMBP	Building Information Management (BIM)	Z,ZK	4
The course deals with Building Information Modeling (BIM) as a modern tool for the design, construction and operation of construction projects. It focuses on advanced applications of information technology in construction and design companies. Software tools that are used for quality control, measurement, preparation of bills of quantities, simulation of construction progress, robotics in civil and transportation construction, and cybercrime, its risks and measures in construction projects. The subject content includes information on contracting digitisation on construction projects.			
126YPMP	Marketing in the Construction Industry - Project P	KZ	2
The course introduces students to basic concepts and techniques in the field of marketing, the links between marketing and other activities in the construction company, its role in the construction company and in society. Students should learn to find market opportunities, segment the market, evaluate market opportunities, build a simple marketing mix, i.e. know and master promotion methods, master pricing principles, correctly define the product and determine distribution channels.			
126ZIPN	Basics of innovative business	Z,ZK	2
126YPER	Human resource management	Z,ZK	2
Main intention is to make students familiar with practical HR management in construction company with focus on hiring, adaptation, motivation, leadership and remuneration. Within classes theory is combined with trainings (model situations).			
126YBVP	BIM in Public Investments	ZK	2

## List of courses of this pass:

Code	Name of the course	Completion	Credits
126BIMP	BIM - Information modeling	Z,ZK	5
126DPM	Diploma Thesis	Z	30
In his/her diploma thesis a student deals with topics from civil engineering and construction, economic and management. He/she solves problems both from operational practice and from research and development. A thesis contains a text part, drawings and possibly documentation. In the project conclusion a student will highlight his/her own contribution to the assigned topic. A thesis links to diploma project and augments knowledge gained of it. The student continuously consults the work with the supervisor, when he submits the individual parts in progress.			
126DSP	Diploma Seminar	KZ	4
The project addresses problems mainly from building practice. The project is preparation for own diploma thesis. The output of the project is the assignment of the topic of the diploma thesis, elaboration of the curriculum, search and study of literature, research and detailed introduction to the solved problems. The student will study the methodological instructions of the Czech Technical University in Prague, how to write university graduate theses - see <a href="http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci">http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci</a> .			
126FAMG	Facility Management	Z,ZK	4
The aim of the course is to understand the issue of integrated facility management in the context of the currently valid standards SN EN 15221 and SN EN ISO 41001 - Facility management. Students will become familiar with the principles of efficient building operation, including the provision of support activities in the form of in-house and outsourcing. As part of the life cycle of buildings, they solve the issue of operating costs, including maintenance and renewal planning, where they use the Buildpass application. Students will learn to work with the ARCHIBUS CAFM system, from linking the BIM model from the Revit application to solving practical tasks in building management and operation.			
126IMBP	Building Information Management (BIM)	Z,ZK	4
The course deals with Building Information Modeling (BIM) as a modern tool for the design, construction and operation of construction projects. It focuses on advanced applications of information technology in construction and design companies. Software tools that are used for quality control, measurement, preparation of bills of quantities, simulation of construction progress, robotics in civil and transportation construction, and cybercrime, its risks and measures in construction projects. The subject content includes information on contracting digitisation on construction projects.			
126INZG	Engineering	Z,ZK	5
Conceptual and operational management of development projects from perspective of time, resources, cost, analysis of resources, solution design, external examination, investment opportunities study, feasibility study, interest optimization, technological, legal, financial resources, price determination, commercial contractual law, engineering contracts specimens, VOB (Verdingungsordnung für Bauleistungen) delivery conditions used by german investors - FIDIC contractual terms used in international construction practice, contractual determination of performance and quality parameters, contractual sanctions, time realistic plans, territorial, constructional governance, law no. 183/2006 Sb. fulfilment, construction order assignment, investment engineering, supplier engineering, suppliers coordination, financial management, capacity management, quality control, technological regulations, handover proceedings plan, test run operation, parameters fulfilment assessment, construction maintenance planning, marketing, building changes prior completion, building handover and acceptance, handover documentation, performance audit, decision processes and methods, invested energy. BIM. Documentation rules. Insolvency, Social responsibility in construction firms, RIPRAN method.			
126MSFP	Managment in Construction Company	Z,ZK	7
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 .			
126OCS1	Construction Pricing 1	Z,ZK	5
Costs are operation-related consumption of work and resources, valued and expressed in monetary units. The aim of the course is to teach the student to use basic calculation techniques and procedures. Furthermore, use the normative and data base, and adapt the normative base for new materials and technologies, or creating. Basic principles of cost calculation in the construction industry. Organization and standardization of work in the company, production process, time consumption. Standardization of labor consumption, methods of setting			

standards, examples, documents. Standardization of material consumption, examples, documents. Standardization of the need for machines - productivity, capacity standards, examples, documents. Salary costs - payroll system, job catalog, wage rate calculation. Costs - breakdown of costs, calculation methods and techniques, calculation bases. Dynamic and normative method of calculation, examples, documents. Individual costing - costing formula, content of components, examples, documents. Methods of non-absorption costing (ABC, method of variable costs), examples. Influencing the amount of material costs, wages, machine operation, overhead. Cost modeling, break-even analysis, examples. Managerial concept of costs.

126OS2P	Construction Pricing 2	Z,ZK	4
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.			
126PM1	Project Management 1	Z,ZK	5
The subject is focused on important decision-making processes and management processes in the preparation and implementation of construction from the perspective of the owner of the construction project. The goal is to analyze the appropriateness of developer acquisition, project activity, legislative preparation, permitting processes, choice of supplier system, choice of supplier evaluation method, choice of contract form. The main attention will be paid to the comparison of the traditional construction delivery method (Design Bid Build) with current alternative delivery systems (Design Build, Integrated Project Delivery, Construction Management). The teaching is supplemented by a number of case studies.			
126PM2	Project Management 2	Z,ZK	5
The teaching of the subject Project management 2 is focused on the acquisition of project management methods in the implementation of large-scale technological constructions and constructions of transport infrastructure. The curriculum is based on the classical theory of project management according to the PMBOK (Project Management Body of Knowledge) and its application to the construction project management manuals of major construction companies (Best Practice). Detailed attention is paid to the main processes of project management (scope, time, cost, quality, human resources, risk and procurement management). The procedural management of construction projects is supplemented by the current issue of claims management and crisis management of construction projects.			
126PRRS	Construction Planning and Operations Management	Z,ZK	6
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,			
126SLEG	Building Legislation	Z	2
Territorial planning and construction code law. Public procurement law. Definition of terms. Commercial contractual relationships. Main contract types in construction - contract of the conclusion of a future contract, purchase contract, contract for work, Contents of the contract.			
126YBVP	BIM in Public Investments	ZK	2
126YCOC	Construction Contracting	Z,ZK	2
As every project manager in construction business has to be a contract manager at the same time, understanding the contract - respectively contracting in general - is a must. Course of Construction Contracting is oriented on current business practices and methods, management techniques and understanding general legal principles, codes and regulations. It is about doing business in construction using standard procurement systems and applying given types of contracts, respectively standard contracts (e.g. FIDIC). Lectures are based on the real practice experience of both course's lecturers and various case studies are studied and solved.			
126YEMB	Energy Management	Z,ZK	4
The course on energy management covers the issues of management in general, energy management, energy systems, and energy efficiency in the European legislation framework. The main target of the course is to explain basic principles and future changes in the construction industry, specifically in the field of energy efficiency economics. The students will increase their knowledge about strategies towards sustainable energy in buildings and mainly about energy efficiency. A specific part of the course is dedicated to the evaluation of energy efficiency measures, supporting schemes for energy efficiency, tackling energy poverty, multi-criterial evaluation of projects, LCA (live cycle assessment) and LCC (life cycle cost), moreover the students receive overview of the cost optimum calculation.			
126YMCP	Management in Construction Company	Z,ZK	4
126YMMR	Management Decision-making Methods	Z,ZK	2
126YOIS	Pricing of Civil Engineering Works	Z,ZK	2
Cost database of transportation structures I normative prices, aggregated items Cost database of transportation structures II OTSKP catalogue Schedule of works and bill of quantities requirements and sources Cost estimation of transportation structures basic principles, techniques Financing of transportation structures EU, SFDI, PPP projects Cost analysis of transportation structures real projects and cost categories Engineering constructions from the perspective of contracting authority legal norms (FIDIC) and another legislature Engineering constructions from the perspective of contractor managing of a contract within the construction company Life cycle costs of engineering constructions Economic efficiency of transportation structures Introduction to estimating software for transportation structures Building information modelling (BIM) and estimating requirements, schedule of works International methods of planning, estimating and predicting transportation structure costs			
126YPER	Human resource management	Z,ZK	2
Main intention is to make students familiar with practical HR management in construction company with focus on hiring, adaptation, motivation, leadership and remuneration. Within classes theory is combined with trainings (model situations).			
126YPMP	Marketing in the Construction Industry - Project P	KZ	2
The course introduces students to basic concepts and techniques in the field of marketing, the links between marketing and other activities in the construction company, its role in the construction company and in society. Students should learn to find market opportunities, segment the market, evaluate market opportunities, build a simple marketing mix, i.e. know and master promotion methods, master pricing principles, correctly define the product and determine distribution channels.			
126YVEI	Public Investment Construction	Z,ZK	2
Public sector investment project. Evaluation of revenues and costs, income and expenses in individual phases of the life cycle of the construction project. Risk and uncertainty in investment decision-making.			
126ZINP	Small Business	Z,ZK	4
126ZIPN	Basics of innovative business	Z,ZK	2

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

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