

Study plan

Name of study plan: Management a ekonomika ve stavebnictví

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Management and Economics in Civil Engineering

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 od akad. roku 2023/24

Name of the block: Compulsory courses

Minimal number of credits of the block: 86

The role of the block: Z

Code of the group: NE20230100

Name of the group: Management a ekonomika ve stavebnictví, 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 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
126BIMM	BIM - Information modeling Robert Bouška, Vojtěch Starý, Josef Žák Robert Bouška Robert Bouška (Gar.)	Z,ZK	4	2P+2C	Z	z
126FIMA	Financial Management Aleš Tomek, Martin Časenský, Radan Tomek Aleš Tomek Aleš Tomek (Gar.)	Z,ZK	5	2P+2C	Z	z
125SYB	Building Systems Karel Kabele, Jan Tywoniak Karel Kabele Karel Kabele (Gar.)	ZK	4	4P	Z	z
126OCNE	Property Appraisal Renáta Schneiderová Heralová, Renáta Schneiderová Heralová Renáta Schneiderová Heralová (Gar.)	Z,ZK	5	2P+2C	Z	z
126EKMA	Economics for Managers Ondřej Venhoda, Václav Tatýrek, Eduard Hromada Eduard Hromada Eduard Hromada (Gar.)	ZK	2	2P	Z	z
126PCON	Construction economics (prices, costs, costing) Renáta Schneiderová Heralová, Jaroslava Tománková, Lucie Brožová, Dana Čápková Lucie Brožová Lucie Brožová (Gar.)	KZ	5	1P+3C	Z	z
126PM1	Project Management 1 Michal Vondruška Michal Vondruška Michal Vondruška (Gar.)	Z,ZK	5	3P+1C	Z	z

Characteristics of the courses of this group of Study Plan: Code=NE20230100 Name=Management a ekonomika ve stavebnictví, 1. semestr

126BIMM	BIM - Information modeling	Z,ZK	4	Student are going to acquire skills and knowledge in the field of systems working with documents in digital form, their structure and the use of data within document management systems and common data environments. They will receive information regarding the digitization of processes and the awarding of contracts for design, construction and consulting work in the construction industry. In the context of digitization, they will acquire knowledge in the field of legislation (Cybernet Act and Act on Document Service, ZZVZ) and contractual FIDIC, Czech Contractual Standard and BIM Protocol. Graduates will gain knowledge about database systems, their architecture and use for construction project management, including options for choosing such systems in terms of technology, price and efficiency. Students will be introduced to tasks from practice using data and information systems to create measurement reports, certify buildings and monitor construction progress. The course is designed in such a way that students can obtain more detailed information from the field of information systems in construction companies, the current state of the use of digitization and their possibilities in construction projects. The acquired knowledge will enable the application of information technologies to engineering tasks.
126FIMA	Financial Management	Z,ZK	5	Advanced course in the financial management of a construction company - links to project finance and the system of intra-company economic management (centres). Corporate budgets as a tool for implementing the company's strategy. Liquidity management of a construction company - working capital management and cashflow forecast. Financial analysis and its application in a construction company. Financial controlling of the company and its functions. Valuation of construction companies. Corporate financial policies - optimal mix of debt and equity, financing of new projects, dividend policy. The EVA method. Project finance and its application in BOT projects. Financing of standard contract projects (domestic and international).

125SYB	Building Systems	ZK	4
Multi-criteria analysis of the requirements for the indoor environment and the function of the systems in different types of buildings and plants and optimization criteria for the design of energy and ecological building systems. Relationships between building technical equipment and the building. Integrated view of conceptual solutions in different building types in terms of indoor systems and building design. E.g. office buildings, residential buildings, halls, shopping centres, cultural centres, industrial buildings, sports buildings, family houses, passive etc. The audience will be introduced to the requirements for the indoor environment, the characteristic elements of energy and environmental building systems in relation to the structural design for the building type.			
126OCNE	Property Appraisal	Z,ZK	5
Basic terms from the property appraisal area. Property appraisal methods, purpose and utilization, appraisal theory. Cost method, method of comparison, method of returns. Market value analysis - methods of final analysis of market value. Administrative price of real estates, property appraisal in banking, insurance industry, in business activities, in property administration.			
126EKMA	Economics for Managers	ZK	2
The subject explains the tools and procedures that can be used to understand the decision-making of consumers and companies in the market environment and to understand the factors influencing the formation of macroeconomic variables and economic-political instruments for the correction of economic performance. The aim of the subject is to understand the functioning of a small open economy in a market environment. After successful graduation, students will be able to: - to understand how consumers make decisions about consumer demand and companies about production volume and prices in a market economy, and how changes in economic variables affect the decisions of economic entities, - recognize risks and ways of managing them and understand market failures and their solution options, - use economic theory and models to explain and predict the behavior of economic entities both in managerial decision-making and at the macro level with an explanation of the specifics of the real estate market and the construction sector.			
126PCON	Construction economics (prices, costs, costing)	KZ	5
Planning and controlling with a focus on project controlling, getting acquainted with modern tools and managerial decision-making techniques that enable efficient management of the construction company and independent solution of tasks on real projects using modern management tools (SW for cost, time and resource management).			
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.			

Code of the group: NE20230200

Name of the group: Management a ekonomika ve stavebnictví, 2. semestr

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

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

Credits in the group: 26

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
124PSE1	Building Structures 1E Ctislav Fiala, Jan Růžička, Tomáš Čejka Ctislav Fiala Ctislav Fiala (Gar.)	Z	4	3P	L	Z
126FAMG	Facility Management Daniel Macek Daniel Macek Daniel Macek (Gar.)	Z,ZK	4	1P+3C	L	Z
126YEMB	Energy Management Jan Pojar, Jiří Karásek Jiří Karásek Jiří Karásek (Gar.)	Z,ZK	4	2P+2C	L	Z
126INZG	Engineering Václav Tatýrek, Dana Měšťánová Václav Tatýrek Dana Měšťánová (Gar.)	Z,ZK	5	2P+2C	Z,L	Z
126PM2	Project Management 2 Michal Vondruška Michal Vondruška Michal Vondruška (Gar.)	Z,ZK	5	3P+1C	L	Z
126DSP	Diploma Seminar Josef Žák, Aleš Tomek, Martin Čásenský, Radan Tomek, Renáta Schneiderová Heralová, Václav Tatýrek, Eduard Hromada, Jaroslava Tománková, Lucie Brožová, Renáta Schneiderová Heralová Zita Prostějovská (Gar.)	KZ	4	3C	L	Z

Characteristics of the courses of this group of Study Plan: Code=NE20230200 Name=Management a ekonomika ve stavebnictví, 2. semestr

124PSE1	Building Structures 1E	Z	4
Introduction and related legislation, construction technology, historical and modern construction systems, low-energy, passive and nZEB buildings in terms of requirements, basic principles and design methodology, material solutions, environmental aspects of the design, energy and water management. Structural systems of wooden buildings, foundation of wooden buildings, vertical and horizontal load-bearing structures of wooden buildings, roof construction, envelopes of buildings and roof envelopes, internal construction in terms of acoustics and the risk of summer overheating, basic details of wooden buildings. Modern completion construction envelopes of buildings and windows, overhanging structures, partitions and floors in terms of acoustics. Historical constructions material solutions for vertical and horizontal load-bearing structures, roof construction, building technical and historical exploration. Failures of masonry, concrete structures, ceiling and roofing structures and the possibilities of their rehabilitation. Examples of reconstruction and modernization of buildings. Sustainable construction principles, technical measures from the perspective of sustainable construction. Methods of complex assessment of building quality, SB Tool CZ. Processes in preparation and awarding construction contracts.			
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 ČSN EN 15221 and ČSN 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.			

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.			
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.			
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.			
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 http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci .			

Code of the group: NE20230300

Name of the group: Management a ekonomika ve stavebnictví, 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) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
126DPM	Diploma Thesis Robert Bouška, Josef Žák, Aleš Tomek, Martin Čásenský, Radan Tomek, Renáta Schneiderová Heralová, Václav Tatýrek, Eduard Hromada, Jaroslava Tománková, Eduard Hromada Václav Tatýrek (Gar.)	Z	30	24C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=NE20230300 Name=Management a ekonomika ve stavebnictví, 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: 4

The role of the block: S

Code of the group: NE20230200_1

Name of the group: Management a ekonomika ve stavebnictví, PV předměty, 2. semestr

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

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

Credits in the group: 4

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
126YCEC	Construction Economics and Management Aleš Tomek, Radan Tomek Aleš Tomek Aleš Tomek (Gar.)	Z	2	2P	L	S
126YCOE	Construction Contracting Aleš Tomek, Radan Tomek Josef Žák	Z	2	2P	L	S

126YMME	Management Decision-making Methods E <i>Jakub Kvasnica Jakub Kvasnica</i>	Z	2	1P+1C	L	s
126YPDV	Development Project <i>Kateřina Eklová Kateřina Eklová Kateřina Eklová (Gar.)</i>	Z	2	2C	L	s
124YDRS	Timber Buildings <i>Jan Růžička, Jaroslav Vychytil, Marek Pokorný, Kamil Staněk, Milan Peukert, Lukáš Velebil Jaroslav Vychytil Jaroslav Vychytil (Gar.)</i>	Z	2	1P+1C	L	s
124YRHS	Reconstruction of Historical Building Structures <i>Tomáš Čejka, Radek Zigler, Jiří Witzany Jiří Witzany Jiří Witzany (Gar.)</i>	Z	2	1P+1C	L	s
126YBVE	BIM in Public Investments <i>Stanislav Vitásek Stanislav Vitásek Stanislav Vitásek (Gar.)</i>	Z	2	2P	L	s
122YTPP	Technology of preparatory processes <i>Tomáš Váchal, Mária Párová Mária Párová Rostislav Šulc (Gar.)</i>	Z	2	1P+1C	Z,L	s

Characteristics of the courses of this group of Study Plan: Code=NE20230200_1 Name=Management a ekonomika ve stavebnictví, PV předměty, 2. semestr

126YCEC	Construction Economics and Management	Z	2			
An AZ overview of construction engineering and management at both the corporate and project levels. All participants, processes, and aspects of the construction industry are introduced. The course focuses on the major areas of company and project management, including business development, contracting, estimating, competitive bidding, planning and controlling of vital processes, financial management, cost control and risk management, among other topics. Lectures are based on the real practice experience of all course lecturers and various case studies are studied and solved. The course integrates theoretical knowledge with real practice, preparing students for effective decision-making and leadership roles in construction companies and project teams. Building Industry Game is played by all course participants throughout the semester. In this online simulation of a realistic business environment with variable conditions and demand for construction work (developed and operated by the California Polytechnic State University), students act as contractors, managing their companies and projects they compete for.						
126YCOE	Construction Contracting	Z	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.						
126YMME	Management Decision-making Methods E	Z	2			
126YPDV	Development Project	Z	2			
124YDRS	Timber Buildings	Z	2			
The aim is to present a complex overview on energy efficient timber structures. Basic theoretical and design principles are presented. The lectures are focused on following technologies of timber structures: (i) heavy timber skeleton systems, (ii) light timber structures based on 2x4, (iii) CLT, (iv) log house. All technologies of timber structures are presented in structural and building physics context of low energy and passive buildings.						
124YRHS	Reconstruction of Historical Building Structures	Z	2			
In the period from the second half of the 19th century by 1960, more than 250 thousand of two- to five-story brick apartment (mainly rental) houses in traditional brick technology were constructed in the Czech Republic. Brick buildings from this period were built according to regulations, building codes and laws from the turn of the 19th and 20th centuries. Multi-storey brick tenement houses do not meet the current thermal, acoustic and other requirements, the requirements of a dynamically developing society to the required extent, and in many cases require regeneration and modernization interventions, including the replacement of non-compliant and out-of-date structures and equipment enabling their further use. The course is focused on the current issue of renewal, reconstruction and modernization of brick multi-storey rental apartment buildings, on historical structures and materials, the issue of degradation and aging of structures and materials of historic brick residential buildings, their residual life, failures and reconstruction of historical buildings and their parts. Furthermore, the course is focused on the issue of improving the well-being of the internal environment, the replacement of finishing structures, opening fillings, etc. as an integral part of the modernization of these buildings.						
126YBVE	BIM in Public Investments	Z	2			
122YTPP	Technology of preparatory processes	Z	2			
Construction manager - qualifications, financial and criminal responsibility, rights and obligations according to law and contract, processes performed by the construction manager - job description. Foreman, rights and obligations, job description. Technical supervision of the builder, construction supervision, financial and criminal responsibility. Awarding of public and other construction contracts, requirements of contracting authorities, offer of construction contracts for individual tenders Basic pre-production and production preparation of the contractor.						

List of courses of this pass:

Code	Name of the course	Completion	Credits
122YTPP	Technology of preparatory processes	Z	2
Construction manager - qualifications, financial and criminal responsibility, rights and obligations according to law and contract, processes performed by the construction manager - job description. Foreman, rights and obligations, job description. Technical supervision of the builder, construction supervision, financial and criminal responsibility. Awarding of public and other construction contracts, requirements of contracting authorities, offer of construction contracts for individual tenders Basic pre-production and production preparation of the contractor.			
124PSE1	Building Structures 1E	Z	4
Introduction and related legislation, construction technology, historical and modern construction systems, low-energy, passive and nZEB buildings in terms of requirements, basic principles and design methodology, material solutions, environmental aspects of the design, energy and water management. Structural systems of wooden buildings, foundation of wooden buildings, vertical and horizontal load-bearing structures of wooden buildings, roof construction, envelopes of buildings and roof envelopes, internal construction in terms of acoustics and the risk of summer overheating, basic details of wooden buildings. Modern completion construction envelopes of buildings and windows, overhanging structures, partitions and floors in terms of acoustics. Historical constructions material solutions for vertical and horizontal load-bearing structures, roof construction, building technical and historical exploration. Failures of masonry, concrete structures, ceiling and roofing structures and the possibilities of their rehabilitation. Examples of reconstruction and modernization of buildings. Sustainable construction principles, technical measures from the perspective of sustainable construction. Methods of complex assessment of building quality, SB Tool CZ. Processes in preparation and awarding construction contracts.			

124YDRS	Timber Buildings	Z	2
The aim is to present a complex overview on energy efficient timber structures. Basic theoretical and design principals are presented. The lectures are focused on following technologies of timber structures: (i) heavy timber skeleton systems, (ii) light timber structures based on 2x4. (iii) CLT, (iv) log house. All technologies of timber structures are presented in structural and building physics context of low energy and passive buildings.			
124YRHS	Reconstruction of Historical Building Structures	Z	2
In the period from the second half of the 19th century by 1960, more than 250 thousand of two- to five-story brick apartment (mainly rental) houses in traditional brick technology were constructed in the Czech Republic. Brick buildings from this period were built according to regulations, building codes and laws from the turn of the 19th and 20th centuries. Multi-storey brick tenement houses do not meet the current thermal, acoustic and other requirements, the requirements of a dynamically developing society to the required extent, and in many cases require regeneration and modernization interventions, including the replacement of non-compliant and out-of-date structures and equipment enabling their further use. The course is focused on the current issue of renewal, reconstruction and modernization of brick multi-storey rental apartment buildings, on historical structures and materials, the issue of degradation and aging of structures and materials of historic brick residential buildings, their residual life, failures and reconstruction of historical buildings and their parts. Furthermore, the course is focused on the issue of improving the well-being of the internal environment, the replacement of finishing structures, opening fillings, etc. as an integral part of the modernization of these buildings.			
125SYB	Building Systems	ZK	4
Multi-criteria analysis of the requirements for the indoor environment and the function of the systems in different types of buildings and plants and optimization criteria for the design of energy and ecological building systems. Relationships between building technical equipment and the building. Integrated view of conceptual solutions in different building types in terms of indoor systems and building design. E.g. office buildings, residential buildings, halls, shopping centres, cultural centres, industrial buildings, sports buildings, family houses, passive etc. The audience will be introduced to the requirements for the indoor environment, the characteristic elements of energy and environmental building systems in relation to the structural design for the building type.			
126BIMM	BIM - Information modeling	Z,ZK	4
Student are going to acquire skills and knowledge in the field of systems working with documents in digital form, their structure and the use of data within document management systems and common data environments. They will receive information regarding the digitization of processes and the awarding of contracts for design, construction and consulting work in the construction industry. In the context of digitization, they will acquire knowledge in the field of legislation (Cybernet Act and Act on Document Service, ZZVZ) and contractual FIDIC, Czech Contractual Standard and BIM Protocol. Graduates will gain knowledge about database systems, their architecture and use for construction project management, including options for choosing such systems in terms of technology, price and efficiency. Students will be introduced to tasks from practice using data and information systems to create measurement reports, certify buildings and monitor construction progress. The course is designed in such a way that students can obtain more detailed information from the field of information systems in construction companies, the current state of the use of digitization and their possibilities in construction projects. The acquired knowledge will enable the application of information technologies to engineering tasks.			
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 http://knihovna.cvut.cz/en/seminare-a-vyuka/jak-psat/jak-psat-zaverecnou-praci .			
126EKMA	Economics for Managers	ZK	2
The subject explains the tools and procedures that can be used to understand the decision-making of consumers and companies in the market environment and to understand the factors influencing the formation of macroeconomic variables and economic-political instruments for the correction of economic performance. The aim of the subject is to understand the functioning of a small open economy in a market environment. After successful graduation, students will be able to: - to understand how consumers make decisions about consumer demand and companies about production volume and prices in a market economy, and how changes in economic variables affect the decisions of economic entities, - recognize risks and ways of managing them and understand market failures and their solution options, - use economic theory and models to explain and predict the behavior of economic entities both in managerial decision-making and at the macro level with an explanation of the specifics of the real estate market and the construction sector.			
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 ČSN EN 15221 and ČSN 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.			
126FIMA	Financial Management	Z,ZK	5
Advanced course in the financial management of a construction company - links to project finance and the system of intra-company economic management (centres). Corporate budgets as a tool for implementing the company's strategy. Liquidity management of a construction company - working capital management and cashflow forecast. Financial analysis and its application in a construction company. Financial controlling of the company and its functions. Valuation of construction companies. Corporate financial policies - optimal mix of debt and equity, financing of new projects, dividend policy. The EVA method. Project finance and its application in BOT projects. Financing of standard contract projects (domestic and international).			
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.			
126OCNE	Property Appraisal	Z,ZK	5
Basic terms from the property appraisal area. Property appraisal methods, purpose and utilization, appraisal theory. Cost method, method of comparison, method of returns. Market value analysis - methods of final analysis of market value. Administrative price of real estates, property appraisal in banking, insurance industry, in business activities, in property administration.			
126PCON	Construction economics (prices, costs, costing)	KZ	5
Planning and controlling with a focus on project controlling, getting acquainted with modern tools and managerial decision-making techniques that enable efficient management of the construction company and independent solution of tasks on real projects using modern management tools (SW for cost, time and resource management).			

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.			
126YBVE	BIM in Public Investments	Z	2
126YCEC	Construction Economics and Management	Z	2
An AZ overview of construction engineering and management at both the corporate and project levels. All participants, processes, and aspects of the construction industry are introduced. The course focuses on the major areas of company and project management, including business development, contracting, estimating, competitive bidding, planning and controlling of vital processes, financial management, cost control and risk management, among other topics. Lectures are based on the real practice experience of all course lecturers and various case studies are studied and solved. The course integrates theoretical knowledge with real practice, preparing students for effective decision-making and leadership roles in construction companies and project teams. Building Industry Game is played by all course participants throughout the semester. In this online simulation of a realistic business environment with variable conditions and demand for construction work (developed and operated by the California Polytechnic State University), students act as contractors, managing their companies and projects they compete for.			
126YCOE	Construction Contracting	Z	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.			
126YMME	Management Decision-making Methods E	Z	2
126YPDV	Development Project	Z	2

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

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