

Study plan

Name of study plan: obor P íprava, realizace a provoz staveb

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch:

Program of study: Civil Engineering

Type of study: Follow-up master full-time

Required credits: 90

Elective courses credits: 0

Sum of credits in the plan: 90

Note on the plan: tento studijní plán platí do nástupu 2022/23

Name of the block: Compulsory courses

Minimal number of credits of the block: 86

The role of the block: Z

Code of the group: NL20160100

Name of the group: obor P íprava, realizace a provoz staveb, 1. semestr

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

Requirement courses in the group: In this group you have to complete at least 5 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
105PRSP	Legislation in Civil Engineering, Psychology Dana ímanová, Monika Dobiášová Monika Dobiášová Dana ímanová (Gar.)	ZK	4	4P	Z	z
122KVZC	Quality in construction and activity of expert witnesses Pavel Svoboda, Rostislav Šulc, Tomáš Váchal, Linda Veselá Tomáš Váchal Václav Pospíchal (Gar.)	Z,ZK	6	3P+2C	Z	z
122PPVT	Planning and Management of Projects with using of computer technology Rostislav Šulc, Vja eslav Usmanov, Pavel Neumann Rostislav Šulc Rostislav Šulc (Gar.)	Z,ZK	7	3P+3C	Z	z
122RSPU	Administrative management, operation and maintenance of building Tomáš Váchal, Ond ej Štrup, Michal Himmel Rostislav Šulc Ond ej Štrup (Gar.)	Z,ZK	6	3P+2C	Z	z
122SPTE	Special technology Michal Ková ík Rostislav Šulc Michal Ková ík (Gar.)	ZK	3	2P	Z	z

Characteristics of the courses of this group of Study Plan: Code=NL20160100 Name=obor P íprava, realizace a provoz staveb, 1. semestr

105PRSP	Legislation in Civil Engineering, Psychology	ZK	4
In the part of law, the subject provides a solid basis for a future orientation in practice in the field of building law. The interpretation deals with the forms of placing and permitting of buildings, use of buildings, removal of buildings, selected activities under construction, administrative offenses, expropriation and basic civil law concepts related to building practices, such as real estate, property rights, construction law, unauthorized construction. An integral part of the interpretation is administrative proceedings, their initiation, evidence, rights and obligations of the persons concerned, decisions, remedies. The audience will also be introduced to the question of the responsibility of public authorities for the damage caused by the exercise of public authority and its solution. In the part of psychology, students learn about the important concepts of psychology as a science and as a helping profession. Apart from work and organization psychology, attention is focused on social psychology - communication, conflict resolution, collaboration and teamwork, leadership and motivation. The application of psychological knowledge - possibilities and limits of practical use is also discussed. Students will learn not only the techniques of working with stress or ways of dealing with difficult situations, but also using psychology in corporate communication.			
122KVZC	Quality in construction and activity of expert witnesses	Z,ZK	6
The course is divided into two parts: quality control of project documentation in terms of compliance with the implementing of nacional regulations and forensic expert activities. The scope of the subject is the control activity during construction with a focus on the quality of project documentation, monitoring of crucial parameters of construction and progress of works, management of changes during implementation. Construction quality assurance tools. Technical standards and regulations. Construction quality control. Material and product quality assurance. Listing of the most common errors at the level of project documentation and during the implementation of the construction delivery. The course also deals with the issue of poor quality in the investment process. Basic principle and legislation in the field of expert activities. Analysis of individual building structures in terms of assessing failures and their solution in the expert's report and expert organization. Methodology of preparation of expert opinion and determination of the expert.			

122PPVT	Planning and Management of Projects with using of computer technology	Z,ZK	7
During the course, students will be introduced to the market of SW products from the point of view of preparation and management of construction projects, in the PC laboratory they will create project time plans in SW (MS Project, Primavera, Contec, Alice), manage labor, material and cost resources, perform financial analysis. In other SW (MS Visio) they will process flow diagrams of technological processes, organizational chart of the company. During the course, they will solve basic construction tasks of parametric programming in SW Rhino+Grasshopper. At the end of the course, they will become familiar with the Archibus (Facility Management) environment.			
122RSPU	Administrative management, operation and maintenance of building	Z,ZK	6
122SPTE	Special technology	ZK	3
Progressive technological procedures resulting from the latest findings of construction research. Special technologies for demolition and recycling of buildings. Technologies for special foundations. Trenchless technologies for the implementation of utility networks. Balneotechnics. Drainage engineering. Special technologies for load-bearing structures. Special technologies for building cladding. Special technologies for finishing works. Special construction chemistry. Technologies for sustainable construction. Robotic technologies in construction. Historic building technologies and crafts. The course includes case studies with an emphasis on foreign implementations. Lectures are delivered by a combination of tribal staff and practitioners with international experience.			

Code of the group: NL20160200

Name of the group: obor P íprava, realizace a provoz staveb, 2. 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 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) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
122BOZF	Health and Safety Management in Construction Company and on Building Site <i>Pavel Svoboda, Tomáš Váchal Tomáš Váchal Pavel Svoboda (Gar.)</i>	Z,ZK	7	4P+2C	L	z
122PRJL	Project Design <i>Tomáš Váchal, Pavel Neumann, en k Jarský en k Jarský en k Jarský (Gar.)</i>	KZ	5	4C	L	z
122SPR	Building-Technological Projecting <i>Tomáš Váchal, Pavel Neumann, Adam Konvalinka Tomáš Váchal Tomáš Váchal (Gar.)</i>	KZ	3	1P+2C	L	z
126FIRL	Financial Management and Investment <i>Vladimíra Nováková, Božena Kade ábková Vladimíra Nováková Božena Kade ábková (Gar.)</i>	Z,ZK	5	2P+2C		z
128OPMT	Operations Research and Mathematical Methods in Technology <i>Jana Ku erová Jana Ku erová (Gar.)</i>	Z,ZK	5	2P+2C	L	z
134NKPS	Design of structures during construction process <i>B etislav Židlický, Karel Šeps, Martin Típka B etislav Židlický B etislav Židlický (Gar.)</i>	Z,ZK	5	2P+2C	L	z

Characteristics of the courses of this group of Study Plan: Code=NL20160200 Name=obor P íprava, realizace a provoz staveb, 2. semestr

122BOZF	Health and Safety Management in Construction Company and on Building Site	Z,ZK	7
The aim of the course is to acquaint students with the performance of the health and safety coordinator (hereinafter in the Health and Safety Department) in the preparatory and implementation phase of construction, operation on the construction site in the role of coordination of safe work and workplace. The main goal is to train the development of a health and safety plan for a specific building and its updating and problem solving on examples. Sm.92 / 57 / EHS, introduction of KOO OSH in the Czech Republic, nomenclature, content and compilation of OSH plan according to Act No. 309/2006 Coll. elaboration of individual types of project documentation, application in practice, view of OIP on KOO BOZP, BOZP plan - Excel; software related to the issue; statutory activities of KOO BOZP, photographs of good and bad practice from constructions Practical experience from tenders for the determination of KOO BOZP, remuneration of KOO BOZP and its insurance; conditions for Special Risks and Constructions. Within the exercise, the aim of the course is to develop a health and safety plan for a specific construction and understand the need to coordinate safe work on construction sites and identify all possible health and safety deficiencies and risks on a specific construction; check that all risks on the construction site have been described and assessed; to get acquainted with the activities of KOO BOZP on the construction site.			
122PRJL	Project Design	KZ	5
Assessment of submitted project documentation (for building permits) and its possible additions, solution of the spatial, technological and time structure of the complex construction process of the event, including the processing of the inspection and test plan, environmental plan and health and safety plan, construction site equipment design, technological work procedure (production regulations) 2 of selected important processes, accompanying technical report with commentary on the solution.			
122SPR	Building-Technological Projecting	KZ	3
Basic regulations, concepts according to legal regulations, flow diagram of the preparation and authorization of the contract Building Act - performance of public administration and spatial planning Building Act - building regulations Implementing legislation to the Building Act - design phase Implementing legislation to the Building Act - permit process Implementing legislation to the Construction Act - construction Roads Act - basic provisions and special use - implementation process Rights and obligations of the client, builder, contractual relationship in variants Rights and obligations of the designer, contractual relationship in variants Air Protection Act, Waste Act and Nature and Landscape Protection Act - permit process Law on the protection of agricultural land fund, law on forests and water law - permit process Act on State Monument Care and Act on Environmental Impact Assessment - permit process Civil Code - contract			
126FIRL	Financial Management and Investment	Z,ZK	5
The aim of the subject is to familiarize with the financing and management of a company under conditions of risk and the criteria for financial decision-making and investing under uncertainty. The subject introduces basic economic concepts and relationships in the company and its surroundings. It deals with the motives, goals and functions of the company, the life cycle of the company, the property and capital structure of the company, costs, revenues and profit, the issue of profitability, activity, liquidity and indebtedness, the effect of the interest rate on investing and capital market indicators. Theoretical concepts are presented using examples and graphs and examples from economic practice.			
128OPMT	Operations Research and Mathematical Methods in Technology	Z,ZK	5
An introduction to optimization methodologies with the emphasis on linear optimization, stochastic modelling and multiple criteria optimization including algorithms and computations. Applications will be introduced as appropriate in seminars.			

134NKPS	Design of structures during construction process	Z,ZK	5
Deepening of knowledge in the field of steel and concrete structures with respect to the construction method. Advanced design of steel structures - lateral and torsional stability of beams, global analysis of structures, scaffold, technological structures; cable and membrane structures. Advanced design of concrete structure with respect to the technology during construction.			

Code of the group: NL20160300

Name of the group: obor P íprava, realizace a provoz staveb, diplomová práce

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 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
122DPM	Diploma Thesis <i>Pavel Svoboda, Rostislav Šulc, Tomáš Váchal, Linda Veselá, Václav Pospíchal, Vja eslav Usmanov, Pavel Neumann, Ond ej Štrup, Michal Ková ík, Rostislav Šulc Miloslava Popenková (Gar.)</i>	Z	30	24C	Z	z

Characteristics of the courses of this group of Study Plan: Code=NL20160300 Name=obor P íprava, realizace a provoz staveb, diplomová práce

122DPM	Diploma Thesis	Z	30
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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: NL20160100_1

Name of the group: obor P íprava, realizace a provoz staveb, povinn volitelné p edm ty

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) <i>Tutors, authors and guarantors (gar.)</i>	Completion	Credits	Scope	Semester	Role
122YASP	Automation of Building-Technological Projecting <i>Pavel Neumann Rostislav Šulc Pavel Neumann (Gar.)</i>	Z	2	1P+1C	Z	s
122YRTS	Robotic technology in construction industry <i>Michal Ková ík Rostislav Šulc Michal Ková ík (Gar.)</i>	Z	2	1P+1C	Z	s
122YTES	Technology of Ecological Projects <i>Michal Ková ík, Michal Procházka Rostislav Šulc Michal Ková ík (Gar.)</i>	Z	2	1P+1C	Z	s
122YTRH	Technology of reconstructions of historical buildings <i>Pavel Svoboda, Pavel Neumann, Ladislav Valtr Rostislav Šulc Pavel Neumann (Gar.)</i>	Z	2	1P+1C	Z	s
122YTSD	Technology of Component Production <i>Rostislav Šulc Rostislav Šulc Rostislav Šulc (Gar.)</i>	Z	2	1P+1C	Z,L	s
122YTSS	Technology, implementation and operation of special structures <i>Tomáš Váchal Rostislav Šulc Michal Ková ík (Gar.)</i>	Z	2	1P+1C	L	s
123YTVM	Production technology of building materials <i>Dana Ko áková, Eva Vejmelková, Vojt ch Pommer, Martin Böhm Eva Vejmelková Eva Vejmelková (Gar.)</i>	Z	2	1P+1C	Z	s
126YBIM	Building Information Modelling - Fundamentals <i>Petr Mat jka, Robert Bouška Robert Bouška Petr Mat jka (Gar.)</i>	Z	2	2C	L	s
126YMIS	Managerial Information Systems <i>Lucie Brožová, Petr Kal ev Petr Kal ev Petr Kal ev (Gar.)</i>	Z	2	2C	Z	s

Characteristics of the courses of this group of Study Plan: Code=NL20160100_1 Name=obor P íprava, realizace a provoz staveb, povinn volitelné p edm ty

122YASP	Automation of Building-Technological Projecting	Z	2
Spatial, technological, temporal structure of the object and complex construction process. Modeling the progress of network graphs, construction technology network graph, its connections. The use of typical network graphs and their modifications for rapid modeling of construction implementation. Databases of the system and their editing (construction activities, quality control, environmental aspects, health and safety risks), building construction modeling (creating a construction and technological project) up to the offer level, creating the most common documents (technological analysis, schedule, space-time graph, balance of resources over time). Print reports for Excel Modeling network graphs of the building (project), mass editing, updating according to the actual stage of construction, aggregation of a detailed construction technology project into stage processes, stage of stage of construction, object, etc., creation of control and test plans, creation of environmental plans, creation of health and safety plans, balancing of multiple projects (2 hours), data transfer from budgets in Excel format to construction technol. projects. Data transfer from CONTEC system models to MS Project.			
122YRTS	Robotic technology in construction industry	Z	2
The aim of the course is to introduce students to developments in the rapidly developing field of robotic technologies in construction and to understand the specifics and potential of robotics throughout the construction life cycle. Teaching the course fits into the newly formed government strategy Construction 4.0, preparing the Czech construction industry for the comprehensive digitalization of the industry. The lectures will cover technologies such as 3D printing, CNC, autonomous driving, drones, wearables or tools using augmented reality as the basis of the newly created concept of Construction 4.0. The exercise will include tasks to create a virtual model from a point cloud in preparation for 3D printing and a conceptual design of a robotic construction technology as a conceptual assignment for a multidisciplinary team of developers.			
122YTES	Technology of Ecological Projects	Z	2
The aim of the course is to familiarize students with a rich typology of historical and modern ecological buildings and related construction technologies. The course should cover a wide range of different building types, including an outline of historic preservation, and outline the latest trends in construction related to sustainability.			
122YTRH	Technology of reconstructions of historical buildings	Z	2
122YTSD	Technology of Component Production	Z	2
122YTSS	Technology, implementation and operation of special structures	Z	2
Progressive technological procedures resulting from the latest outputs of construction research. Familiarization with modern technologies used in the realization of non-traditional objects and in the fulfillment of demanding customer requirements. Special methods of production of monolithic, prefabricated and combined silicate bearing structures. Current technology of monolithic structures. Special technology for assembling steel structures. Special technologies used both in the construction of new buildings and in the reconstruction of buildings and in the protection of monuments. Progressive materials and technological procedures for interior and finishing works, resulting from the latest outputs of construction research.			
123YTVM	Production technology of building materials	Z	2
Basic building materials, different types of the production technology, energy consumption of the production, storage and transport, safety at work.			
126YBIM	Building Information Modelling - Fundamentals	Z	2
Subject deals with Building Information Modeling (BIM) topic as with the modern tool for management and operation of construction projects. It is oriented to handling basic relevant software (Autodesk Revit, Autodesk Navisworks) and especially to understanding meaning of BIM in current construction business and its future and importance in specific phases of construction projects.			
126YMIS	Managerial Information Systems	Z	2
Enterprise IS architecture, internal and external information sources to support managerial decision-making - Business Intelligence, information strategy of the enterprise, IS effectiveness, structure and function of managerial IS, multidimensional database and OLAP technology, procedure for building and implementing managerial IS, practical demonstration of Business Navigation System applications and the COGNOS system in construction companies, knowledge management and knowledge base to support strategic management, Competitive Intelligence.			

List of courses of this pass:

Code	Name of the course	Completion	Credits
105PRSP	Legislation in Civil Engineering, Psychology	ZK	4
In the part of law, the subject provides a solid basis for a future orientation in practice in the field of building law. The interpretation deals with the forms of placing and permitting of buildings, use of buildings, removal of buildings, selected activities under construction, administrative offenses, expropriation and basic civil law concepts related to building practices, such as real estate, property rights, construction law, unauthorized construction. An integral part of the interpretation is administrative proceedings, their initiation, evidence, rights and obligations of the persons concerned, decisions, remedies. The audience will also be introduced to the question of the responsibility of public authorities for the damage caused by the exercise of public authority and its solution. In the part of psychology, students learn about the important concepts of psychology as a science and as a helping profession. Apart from work and organization psychology, attention is focused on social psychology - communication, conflict resolution, collaboration and teamwork, leadership and motivation. The application of psychological knowledge - possibilities and limits of practical use is also discussed. Students will learn not only the techniques of working with stress or ways of dealing with difficult situations, but also using psychology in corporate communication.			
122BOZF	Health and Safety Management in Construction Company and on Building Site	Z,ZK	7
The aim of the course is to acquaint students with the performance of the health and safety coordinator (hereinafter in the Health and Safety Department) in the preparatory and implementation phase of construction, operation on the construction site in the role of coordination of safe work and workplace. The main goal is to train the development of a health and safety plan for a specific building and its updating and problem solving on examples. Sm.92 / 57 / EHS, introduction of KOO OSH in the Czech Republic, nomenclature, content and compilation of OSH plan according to Act No. 309/2006 Coll. elaboration of individual types of project documentation, application in practice, view of OIP on KOO BOZP, BOZP plan - Excel; software related to the issue; statutory activities of KOO BOZP, photographs of good and bad practice from constructions Practical experience from tenders for the determination of KOO BOZP, remuneration of KOO BOZP and its insurance; conditions for Special Risks and Constructions. Within the exercise, the aim of the course is to develop a health and safety plan for a specific construction and understand the need to coordinate safe work on construction sites and identify all possible health and safety deficiencies and risks on a specific construction; check that all risks on the construction site have been described and assessed; to get acquainted with the activities of KOO BOZP on the construction site.			
122DPM	Diploma Thesis	Z	30
122KVZC	Quality in construction and activity of expert witnesses	Z,ZK	6
The course is divided into two parts: quality control of project documentation in terms of compliance with the implementing of national regulations and forensic expert activities. The scope of the subject is the control activity during construction with a focus on the quality of project documentation, monitoring of crucial parameters of construction and progress of works, management of changes during implementation. Construction quality assurance tools. Technical standards and regulations. Construction quality control. Material and product quality assurance. Listing of the most common errors at the level of project documentation and during the implementation of the construction delivery. The course also deals with the issue of poor quality in the investment process. Basic principle and legislation in the field of expert activities. Analysis of individual building structures in terms of assessing failures and their solution in the expert's report and expert organization. Methodology of preparation of expert opinion and determination of the expert.			

122PPVT	Planning and Management of Projects with using of computer technology	Z,ZK	7
During the course, students will be introduced to the market of SW products from the point of view of preparation and management of construction projects, in the PC laboratory they will create project time plans in SW (MS Project, Primavera, Contec, Alice), manage labor, material and cost resources, perform financial analysis. In other SW (MS Visio) they will process flow diagrams of technological processes, organizational chart of the company. During the course, they will solve basic construction tasks of parametric programming in SW Rhino+Grasshopper. At the end of the course, they will become familiar with the Archibus (Facility Management) environment.			
122PRJL	Project Design	KZ	5
Assessment of submitted project documentation (for building permits) and its possible additions, solution of the spatial, technological and time structure of the complex construction process of the event, including the processing of the inspection and test plan, environmental plan and health and safety plan, construction site equipment design, technological work procedure (production regulations) 2 of selected important processes, accompanying technical report with commentary on the solution.			
122RSPU	Administrative management, operation and maintenance of building	Z,ZK	6
122SPR	Building-Technological Projecting	KZ	3
Basic regulations, concepts according to legal regulations, flow diagram of the preparation and authorization of the contract Building Act - performance of public administration and spatial planning Building Act - building regulations Implementing legislation to the Building Act - design phase Implementing legislation to the Building Act - permit process Implementing legislation to the Construction Act - construction Roads Act - basic provisions and special use - implementation process Rights and obligations of the client, builder, contractual relationship in variants Rights and obligations of the designer, contractual relationship in variants Air Protection Act, Waste Act and Nature and Landscape Protection Act - permit process Law on the protection of agricultural land fund, law on forests and water law - permit process Act on State Monument Care and Act on Environmental Impact Assessment - permit process Civil Code - contract			
122SPTE	Special technology	ZK	3
Progressive technological procedures resulting from the latest findings of construction research. Special technologies for demolition and recycling of buildings. Technologies for special foundations. Trenchless technologies for the implementation of utility networks. Balneotechnics. Drainage engineering. Special technologies for load-bearing structures. Special technologies for building cladding. Special technologies for finishing works. Special construction chemistry. Technologies for sustainable construction. Robotic technologies in construction. Historic building technologies and crafts. The course includes case studies with an emphasis on foreign implementations. Lectures are delivered by a combination of tribal staff and practitioners with international experience.			
122YASP	Automation of Building-Technological Projecting	Z	2
Spatial, technological, temporal structure of the object and complex construction process. Modeling the progress of network graphs, construction technology network graph, its connections. The use of typical network graphs and their modifications for rapid modeling of construction implementation. Databases of the system and their editing (construction activities, quality control, environmental aspects, health and safety risks), building construction modeling (creating a construction and technological project) up to the offer level, creating the most common documents (technological analysis, schedule, space-time graph, balance of resources over time). Print reports for Excel Modeling network graphs of the building (project), mass editing, updating according to the actual stage of construction, aggregation of a detailed construction technology project into stage processes, stage of stage of construction, object, etc., creation of control and test plans, creation of environmental plans, creation of health and safety plans, balancing of multiple projects (2 hours), data transfer from budgets in Excel format to construction technol. projects. Data transfer from CONTEC system models to MS Project.			
122YRTS	Robotic technology in construction industry	Z	2
The aim of the course is to introduce students to developments in the rapidly developing field of robotic technologies in construction and to understand the specifics and potential of robotics throughout the construction life cycle. Teaching the course fits into the newly formed government strategy Construction 4.0, preparing the Czech construction industry for the comprehensive digitalization of the industry. The lectures will cover technologies such as 3D printing, CNC, autonomous driving, drones, wearables or tools using augmented reality as the basis of the newly created concept of Construction 4.0. The exercise will include tasks to create a virtual model from a point cloud in preparation for 3D printing and a conceptual design of a robotic construction technology as a conceptual assignment for a multidisciplinary team of developers.			
122YTES	Technology of Ecological Projects	Z	2
The aim of the course is to familiarize students with a rich typology of historical and modern ecological buildings and related construction technologies. The course should cover a wide range of different building types, including an outline of historic preservation, and outline the latest trends in construction related to sustainability.			
122YTRH	Technology of reconstructions of historical buildings	Z	2
122YTSD	Technology of Component Production	Z	2
122YTSS	Technology, implementation and operation of special structures	Z	2
Progressive technological procedures resulting from the latest outputs of construction research. Familiarization with modern technologies used in the realization of non-traditional objects and in the fulfillment of demanding customer requirements. Special methods of production of monolithic, prefabricated and combined silicate bearing structures. Current technology of monolithic structures. Special technology for assembling steel structures. Special technologies used both in the construction of new buildings and in the reconstruction of buildings and in the protection of monuments. Progressive materials and technological procedures for interior and finishing works, resulting from the latest outputs of construction research.			
123YTMV	Production technology of building materials	Z	2
Basic building materials, different types of the production technology, energy consumption of the production, storage and transport, safety at work.			
126FIRL	Financial Management and Investment	Z,ZK	5
The aim of the subject is to familiarize with the financing and management of a company under conditions of risk and the criteria for financial decision-making and investing under uncertainty. The subject introduces basic economic concepts and relationships in the company and its surroundings. It deals with the motives, goals and functions of the company, the life cycle of the company, the property and capital structure of the company, costs, revenues and profit, the issue of profitability, activity, liquidity and indebtedness, the effect of the interest rate on investing and capital market indicators. Theoretical concepts are presented using examples and graphs and examples from economic practice.			
126YBIM	Building Information Modelling - Fundamentals	Z	2
Subject deals with Building Information Modeling (BIM) topic as with the modern tool for management and operation of construction projects. It is oriented to handling basic relevant software (Autodesk Revit, Autodesk Navisworks) and especially to understanding meaning of BIM in current construction business and its future and importance in specific phases of construction projects.			
126YMIS	Managerial Information Systems	Z	2
Enterprise IS architecture, internal and external information sources to support managerial decision-making - Business Intelligence, information strategy of the enterprise, IS effectiveness, structure and function of managerial IS, multidimensional database and OLAP technology, procedure for building and implementing managerial IS, practical demonstration of Business Navigation System applications and the COGNOS system in construction companies, knowledge management and knowledge base to support strategic management, Competitive Intelligence.			
128OPMT	Operations Research and Mathematical Methods in Technology	Z,ZK	5
An introduction to optimization methodologies with the emphasis on linear optimization, stochastic modelling and multiple criteria optimization including algorithms and computations. Applications will be introduced as appropriate in seminars.			
134NKPS	Design of structures during construction process	Z,ZK	5
Deepening of knowledge in the field of steel and concrete structures with respect to the construction method. Advanced design of steel structures - lateral and torsional stability of beams, global analysis of structures, scaffold, technological structures; cable and membrane structures. Advanced design of concrete structure with respect to the technology during construction.			

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

