

Study plan

Name of study plan: obor Projektový management a inženýring

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Project Management and Engineering

Garantor of the study branch: doc. Ing. Zita Prostějovská, Ph.D.

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: přesuny mezi semestry a úpravy kreditů v letním semestru

Name of the block: Compulsory courses

Minimal number of credits of the block: 86

The role of the block: Z

Code of the group: NP20170100

Name of the group: obor Projektový management a inženýring, 1. 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:

126PLCO místo 126INGZ

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
126BIMB	BIM - Information modeling Robert Bouška, Petr Matějka, Josef Žák Robert Bouška Petr Matějka (Gar.)	Z,ZK	4	1P+3C	Z	z
126FIMA	Financial Management Aleš Tomek, Radan Tomek Martin Čásenský Aleš Tomek (Gar.)	Z,ZK	5	3P+2C	Z	z
126MJKP	Quality and Risk Management Vilém Berka, Petr Dlásk	ZK	4	3P	Z	z
126OCNE	Property Appraisal Renáta Schneiderová Heralová Renáta Schneiderová Heralová Renáta Schneiderová Heralová (Gar.)	Z,ZK	5	2P+2C	Z	z
126PLCO	Construction economics (prices, costs, costing) Renáta Schneiderová Heralová, Dana Čápková, Lucie Brožová, Jaroslava Tománková Dana Čápková Renáta Schneiderová Heralová (Gar.)	Z,ZK	5	1P+3C	Z	z
126PM01	Project Management 1 Michal Vondruška, Vít Kosina Michal Vondruška Michal Vondruška (Gar.)	Z,ZK	7	3P+3C	Z	z

Characteristics of the courses of this group of Study Plan: Code=NP20170100 Name=obor Projektový management a inženýring, 1. semestr

126BIMB	BIM - Information modeling	Z,ZK	4
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.			
126FIMA	Financial Management	Z,ZK	5
126MJKP	Quality and Risk Management	ZK	4
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.			
126PLCO	Construction economics (prices, costs, costing)	Z,ZK	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).			
126PM01	Project Management 1	Z,ZK	7

Code of the group: NP20170200

Name of the group: obor Projektový management a inženýring, 2. 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 6 courses

Credits in the group: 26

Note on the group:

126INGZ místo 126PLCO, úpravy kreditů

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
101MMR	Mathematical Methods of Controlling Martin Hála, Jozef Bobok Jozef Bobok Jozef Bobok (Gar.)	Z,ZK	3	2P+1C	L	Z
126FAMG	Facility Management Daniel Macek Daniel Macek Daniel Macek (Gar.)	Z,ZK	4	1P+3C	L	Z
126KIST	Calculation of Transport Infrastructure Josef Žák, Iveta Střelcová Iveta Střelcová Iveta Střelcová (Gar.)	Z,ZK	5	2P+2C	L	Z
126INZG	Engineering Václav Tatýrek, Dana Měšťanová Václav Tatýrek Dana Měšťanová (Gar.)	Z,ZK	5	2P+2C	L	Z
126PM2	Project Management 2 Michal Vondruška Michal Vondruška Michal Vondruška (Gar.)	Z,ZK	5	3P+1C	L	Z
126DISP	Diploma Seminar Petr Matějka, Aleš Tomek, Radan Tomek, Martin Čáseňský, Petr Dlásk, Renáta Schneiderová Heralová, Dana Čápková, Jaroslava Tománková, Václav Tatýrek, Eduard Hromada	Z	4	3C	L	Z

Characteristics of the courses of this group of Study Plan: Code=NP20170200 Name=obor Projektový management a inženýring, 2. semestr

101MMR	Mathematical Methods of Controlling	Z,ZK	3
126FAMG	Facility Management	Z,ZK	4
EU standard ČSN EN 15221 "Facility management" defines this branch as integrated management of all services, which support basic activities of companies. From the construction point of view it is economic, nevertheless, flexible area (buildings, stadium, manufacturing hall), from the company point of view it is administration of a real estate and property and securing all supporting services. Students will learn the latest EU standards, in/outsourcing problems, they will be trained how to prepare a contract for services delivery in accordance with EU standards. Examples of current pilot projects with practising experts.			
126KIST	Calculation of Transport Infrastructure	Z,ZK	5
Deepening of knowledge in the field of transport constructions (roads, bridges, culverts and retaining walls) both in terms of valuation and preparation of constructions (prices, cost calculation, construction site equipment) and in terms of technology.			
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 course focuses on important decision-making processes and management processes in the Construction projects from the point of view of the owner. The aim is to analyze the choice of the delivery system, the selection of evaluation methods, the choice of contract form and the quality of the works. The main focus is on the comparison of the traditional Design Bid Build with the current Design Build, Integrated Project Delivery, Multiple Prime Contracts and Construction Management at Risk. Questions in the area of quality assurance will be explained in the field of transport and building construction. Teaching is complemented by a number of case studies.			
126DISP	Diploma Seminar	Z	4
Each student will ensure the supervisor of his work from the Department of Economics and Management in Civil Engineering at the beginning of the semester. In co-operation with the supervisor, the topic of work in the field of construction and economics is chosen. 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: NP20160300

Name of the group: obor Projektový management a inženýring, 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) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
126DPM	Diploma Thesis Petr Matějka, Josef Žák, Aleš Tomek, Radan Tomek, Martin Čáseňský, Vilém Berka, Petr Dlásk, Renáta Schneiderová Heralová, Dana Čápková, Jindřiška Bušková Petr Matějka (Gar.)	Z	30	24C	Z	Z

Characteristics of the courses of this group of Study Plan: Code=NP20160300 Name=obor Projektový management a inženýring, 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.			

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: NP20160200_1

Name of the group: obor Projektový management a inženýring, povinně volitelné předměty

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

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

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
126YBM	Safety Management Vilém Berka, Petr Dlask Vilém Berka Petr Dlask (Gar.)	Z,ZK	4	2P+2C	L	s
126YCEM	Construction Economics and Management	Z,ZK	4	2P+2C	L	s
126YCON	Construction Contracting Aleš Tomek, Radan Tomek Aleš Tomek Aleš Tomek (Gar.)	Z,ZK	4	4P	L	s
126YEMB	Energy Management Jiří Karásek Jiří Karásek Jiří Karásek (Gar.)	Z,ZK	4	2P+2C	L	s

Characteristics of the courses of this group of Study Plan: Code=NP20160200_1 Name=obor Projektový management a inženýring, povinně volitelné předměty

126YBM	Safety Management	Z,ZK	4
Basic presumption of successful manager's career is the knowledge of safety management. The student receives structural information and theoretical overview of the safety management system according to the international standards and validated methods.			
126YCEM	Construction Economics and Management	Z,ZK	4
126YCON	Construction Contracting	Z,ZK	4
As every project manager in construction business also has to be a contract manager at the same time, understanding of contracting principles is a must. Course of Construction Contracting is oriented on current business practices and methods, management techniques, codes and regulations. It is about doing business in construction using standard procurement systems and applying given types of standard contracts (mainly FIDIC). Lectures are based on the construction industry real practice experience of both course's lecturers.			
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.			

List of courses of this pass:

Code	Name of the course	Completion	Credits
101MMR	Mathematical Methods of Controlling	Z,ZK	3
126BIMB	BIM - Information modeling	Z,ZK	4
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.			
126DISP	Diploma Seminar	Z	4
Each student will ensure the supervisor of his work from the Department of Economics and Management in Civil Engineering at the beginning of the semester. In co-operation with the supervisor, the topic of work in the field of construction and economics is chosen. 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 .			

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.			
126FAMG	Facility Management	Z,ZK	4
EU standard ČSN EN 15221 "Facility management" defines this branch as integrated management of all services, which support basic activities of companies. From the construction point of view it is economic, nevertheless, flexible area (buildings, stadium, manufacturing hall), from the company point of view it is administration of a real estate and property and securing all supporting services. Students will learn the latest EU standards, in/outsourcing problems, they will be trained how to prepare a contract for services delivery in accordance with EU standards. Examples of current pilot projects with practising experts.			
126FIMA	Financial Management	Z,ZK	5
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.			
126KIST	Calculation of Transport Infrastructure	Z,ZK	5
Deepening of knowledge in the field of transport constructions (roads, bridges, culverts and retaining walls) both in terms of valuation and preparation of constructions (prices, cost calculation, construction site equipment) and in terms of technology.			
126MJKP	Quality and Risk Management	ZK	4
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.			
126PLCO	Construction economics (prices, costs, costing)	Z,ZK	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).			
126PM01	Project Management 1	Z,ZK	7
126PM2	Project Management 2	Z,ZK	5
The course focuses on important decision-making processes and management processes in the Construction projects from the point of view of the owner. The aim is to analyze the choice of the delivery system, the selection of evaluation methods, the choice of contract form and the quality of the works. The main focus is on the comparison of the traditional Design Bid Build with the current Design Build, Integrated Project Delivery, Multiple Prime Contracts and Construction Management at Risk. Questions in the area of quality assurance will be explained in the field of transport and building construction. Teaching is complemented by a number of case studies.			
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126YCON	Construction Contracting	Z,ZK	4
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For updated information see <http://bilakniha.cvut.cz/en/FF.html>

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