

Study plan

Name of study plan: obor Vodní hospodářství a vodní stavby

Faculty/Institute/Others:

Department:

Branch of study guaranteed by the department: Water Management and Water Structures

Garantor of the study branch: prof. Dr. Ing. Václav Matoušek

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 od nástupu 2016-17

Name of the block: Compulsory courses

Minimal number of credits of the block: 40

The role of the block: Z

Code of the group: NV20160100

Name of the group: obor Vodní hospodářství a vodní stavby, 1. semestr

Requirement credits in the group: In this group you have to gain at least 20 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 20

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
141APHD	Applied Hydrology Jaromír Dušek, Jana Votrubová, Tomáš Vogel, Michal Dohnal Michal Dohnal Tomáš Vogel (Gar.)	Z,ZK	5	2P+2C	Z	z
141HY3V	Hydraulics 3 Václav Matoušek, Jan Krupička, Mikoláš Kesely, Daniel Mattas Václav Matoušek	Z,ZK	5	2P+2C	Z	z
142VHSO	Water-management Schemes Pavel Fošumpaur, Martin Horský Pavel Fošumpaur (Gar.)	Z,ZK	5	3P+2C	Z	z
143HPVO	Groundwater Hydraulics Jana Valentová, Martina Sobotková, Tomáš Princ, Petr Koudelka Jana Valentová (Gar.)	Z,ZK	5	2P+2C	Z	z

Characteristics of the courses of this group of Study Plan: Code=NV20160100 Name=obor Vodní hospodářství a vodní stavby, 1. semestr

141APHD	Applied Hydrology Transport processes in the atmosphere. Methods for estimating the intensity of evaporation. Snowmelt. Subsurface water. Soil-plant-atmosphere system. Hillslope hydrology. Watershed hydrology. Deterministic and stochastic modeling in hydrology.	Z,ZK	5
141HY3V	Hydraulics 3	Z,ZK	5
142VHSO	Water-management Schemes	Z,ZK	5
143HPVO	Groundwater Hydraulics Classification of aquifers. Fundamental principles of water flow in saturated porous media. Darcy's equation. The Dupuit approximation. Unconfined flow in aquifer, well hydraulics. Unsteady flow in aquifers. Numerical modelling of steady and unsteady groundwater flow, boundary conditions. Methods of hydraulic conductivity determination.	Z,ZK	5

Code of the group: NV20160200

Name of the group: obor Vodní hospodářství a vodní stavby, 2. semestr

Requirement credits in the group: In this group you have to gain 20 credits

Requirement courses in the group: In this group you have to complete 4 courses

Credits in the group: 20

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
142PRVD	Management of Hydraulic Schemes Pavel Fošumpaur, Martin Horský, Petr Nowak, Ladislav Satrapa, Martin Králík, Miroslav Brouček, Milan Zukal Ladislav Satrapa Ladislav Satrapa (Gar.)	Z,ZK	5	3P+2C	L	Z
144CIV	Water quality Ivana Kabelková Ivana Kabelková Ivana Kabelková (Gar.)	Z,ZK	5	2P+2C		Z
144OUP	Urban drainage David Stránský, Luboš Harašta, Marcela Synáčková Ivana Kabelková David Stránský (Gar.)	Z,ZK	5	2P+2C		Z
144VHO4	Urban water management 4 David Stránský, Kateřina Slavičková, Bohumil Šťastný, Jana Nábělková, Bronislava Rohanová Filip Horký Kateřina Slavičková (Gar.)	Z,ZK	5	2P+2C		Z

Characteristics of the courses of this group of Study Plan: Code=Nv20160200 Name=obor Vodní hospodářství a vodní stavby, 2. semestr

142PRVD	Management of Hydraulic Schemes	Z,ZK	5
144CIV	Water quality Composition of natural waters. Types of water pollution, its effects and characteristics. Pollution sources. Running waters. Reservoirs. Water quality monitoring. Water quality classification in the Czech Republic. Water quality protection.	Z,ZK	5
144OUP	Urban drainage Field of urban drainage. Concepts and integrated assessment of the urban drainage system. Rainfall and rainfall data. Runoff from urban areas - effective rainfall, concentration and pollution. Discharge, pollutant transport and transformation in the sewer system. Waste water treatment plant during rainfall. Urban streams. Protective measures - stormwater management, tanks. treatment, real time control. Measurement and monitoring. Basics of modelling and simulation programmes.	Z,ZK	5
144VHO4	Urban water management 4 To get acquainted with new technologies in drinking water treatment and supply as well as water quality control at the treatment plant and in the distribution network. Current topics in water intake, accumulation and distribution.	Z,ZK	5

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 20

The role of the block: PV

Code of the group: NV20160200_1

Name of the group: obor Vodní hospodářství a vodní stavby, povinně volitelné předměty

Requirement credits in the group: In this group you have to gain at least 20 credits

Requirement courses in the group: In this group you have to complete at least 4 courses

Credits in the group: 20

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
141YTHH	Methods of modelling in hydraulics nad hydrology Michal Dohnal, Vojtěch Bareš, Aleš Havlík, Petr Sklenář Michal Dohnal Michal Dohnal (Gar.)	KZ	5	4C	Z	PV
142YGPV	Geotechnical problems of hydraulic structures Miroslav Brouček Miroslav Brouček Miroslav Brouček (Gar.)	Z,ZK	5	3P+1C	Z	PV
143YOPO	Watershed Management Petr Koudelka, Tomáš Dostál, Josef Krása, Miroslav Bauer, Petr Kavka Tomáš Dostál Tomáš Dostál (Gar.)	Z,ZK	5	2P+2C	Z	PV
144YCOV	Water and Waste Water Treatment Jana Nábělková, Jaroslav Pollert Jana Nábělková Jaroslav Pollert (Gar.)	Z,ZK	5	2P+2C	Z	PV
141YRIM	River Morphology and Engineering Václav Matoušek, Petr Sklenář, Ivana Marešová Petr Sklenář Petr Sklenář (Gar.)	ZK	5	2P+2C	L	PV
142YOKV	Steel Constructions of Water Structures Petr Valenta Petr Valenta Petr Valenta (Gar.)	Z,ZK	5	3P+1C	L	PV
143YTPR	Transport Processes Milena Číslarová, David Zumr, Jakub Jeřábek David Zumr Milena Číslarová (Gar.)	Z,ZK	5	2P+2C	L	PV
144YMIB	Urban engineering and balneology Bohumil Šťastný, Jana Nábělková, Filip Horký Jana Nábělková Bohumil Šťastný (Gar.)	ZK	5	4P	L	PV

Characteristics of the courses of this group of Study Plan: Code=Nv20160200_1 Name=obor Vodní hospodářství a vodní stavby, povinně volitelné předměty

141YTHH	Methods of modelling in hydraulics nad hydrology	KZ	5
142YGPV	Geotechnical problems of hydraulic structures	Z,ZK	5
143YOPO	Watershed Management	Z,ZK	5

144YCOV	Water and Waste Water Treatment To learn technology, design and operation of various types of wastewater treatment plants (WWTPs) for different pollution sources.	Z,ZK	5
141YRIM	River Morphology and Engineering	ZK	5
142YOKV	Steel Constructions of Water Structures Loads to hydraulic structures. Dimensioning of construction elements. Combination of loads. Hydraulic valves and gates. Dynamic load and vibrations. Design of gates and valves accessory and facility. Pressure pipe with extreme diameters and special facilities for navigation (boat lifts). Aluminium structures.	Z,ZK	5
143YTPR	Transport Processes	Z,ZK	5
144YMB	Urban engineering and balneology	ZK	5

Name of the block: Povinně volitelné předměty, doporučení S1

Minimal number of credits of the block: 30

The role of the block: S1

Code of the group: NV20160300_1

Name of the group: obor Vodní hospodářství a vodní stavby, 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 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
141DPM	Diploma Thesis Jaromír Dušek, Michal Dohnal, Václav Matoušek, Daniel Mattas, Vojtěch Bareš, Aleš Havlík, Petr Sklenář, Ivana Marešová, Josef Křeček Michal Dohnal Michal Dohnal (Gar.)	Z	30	24C	Z	S1
142DPM	Diploma Thesis Pavel Fošumpaur, Martin Horský, Petr Nowak, Ladislav Satrapa, Martin Králík, Miroslav Brouček, Milan Zukal, Petr Valenta, Michal Toman, Martin Horský Ladislav Satrapa (Gar.)	Z	30	24C	Z,L	S1
143DPM	Diploma Thesis Martina Sobotková, David Zumr Petr Koudelka	Z	30	24C	Z	S1
144DPM	Diploma Thesis Iva Čiháková Bronislava Rohanová Alexander Grünwald (Gar.)	Z	30	24C	Z	S1

Characteristics of the courses of this group of Study Plan: Code=NV20160300_1 Name=obor Vodní hospodářství a vodní stavby, diplomová práce

141DPM	Diploma Thesis in accordance with the thesis proposal	Z	30
142DPM	Diploma Thesis The contents of subject is individual study plan and consultation of thesis with head of thesis	Z	30
143DPM	Diploma Thesis in accordance with the thesis proposal	Z	30
144DPM	Diploma Thesis Diploma Thesis concerning sewerage, waste water treatment, water supply, networks and balnology.	Z	30

List of courses of this pass:

Code	Name of the course	Completion	Credits
141APHD	Applied Hydrology Transport processes in the atmosphere. Methods for estimating the intensity of evaporation. Snowmelt. Subsurface water. Soil-plant-atmosphere system. Hillslope hydrology. Watershed hydrology. Deterministic and stochastic modeling in hydrology.	Z,ZK	5
141DPM	Diploma Thesis in accordance with the thesis proposal	Z	30
141HY3V	Hydraulics 3	Z,ZK	5
141YRIM	River Morphology and Engineering	ZK	5
141YTHH	Methods of modelling in hydraulics nad hydrology	KZ	5
142DPM	Diploma Thesis The contents of subject is individual study plan and consultation of thesis with head of thesis	Z	30
142PRVD	Management of Hydraulic Schemes	Z,ZK	5
142VHSO	Water-management Schemes	Z,ZK	5

