Study plan

Name of study plan: Digitalizace ve stavebnictví - kombinovaná forma studia

Faculty/Institute/Others:
Department:
Branch of study guaranteed by the department: Welcome page
Garantor of the study branch:
Program of study: Digitalization in Civil Engineering
Type of study: Follow-up master combined
Required credits: 90
Elective courses credits: 0
Sum of credits in the plan: 90
Note on the plan: Studijní plán pro kombinovanou formu studia od akademického roku 2025/2026

Name of the block: Compulsory courses
Minimal number of credits of the block: 52
The role of the block: Z

Code of the group: NT202502_K
Name of the group: Digitalizace ve stavebnictví, 2. semestr
Requirement credits in the group: In this group you have to gain at least 28 credits
Requirement courses in the group: In this group you have to complete at least 8 courses
Credits in the group: 28
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
125DNPS_K	**Digitization in HVAC Service Design and Operation**	Z,ZK	3	8B	L	z
126SYPR_K	**Management Support Systems**	Z,ZK	3	12B	L	z
154VMGD_K	**Advanced Methods in Geodesy and Digitization**	Z,ZK	4	12B	L	z
105PDKS_K	**Law in Digitization and Communication in Digital World**	KZ	3	12B	L	z
155DPFS_K	**Digitization in Operational Phase of Construction**	Z,ZK	4	12B	L	z
122DKKS_K	**Digitization of Quality Control in Civil Engineering**	Z,ZK	2	8B	L	z
124PNAV_K	**Parametric design**	Z	4	12B	L	z
126PJDS_K	**Project**	KZ	5	16B	L	z

Characteristics of the courses of this group of Study Plan: Code=NT202502_K Name=Digitalizace ve stavebnictví, 2. semestr

125DNPS_K	Digitization in HVAC Service Design and Operation	Z,ZK	3
126SYPR_K	Management Support Systems	Z,ZK	3
This course aims to provide knowledge of standards and tools for management support. The whole course is introduced by topics that aim to explain the basic background of system management support and concepts in this area. The course focuses on process modelling, its relation to the specification of requirements for software systems and the specifics of the application of process modelling in the construction industry - especially in relation to building information modelling.			
154VMGD_K	Advanced Methods in Geodesy and Digitization	Z,ZK	4
105PDKS_K	Law in Digitization and Communication in Digital World	KZ	3
This course prepares students for the legal and communication aspects related to the BIM (Building Information Management) methodology, which is becoming mandatory for certain public contracts. Emphasis is placed not only on understanding copyright law, the management of digital databases, and licensing contracts but also on the ability to communicate project outcomes clearly and convincingly in both digital and public spaces. Students will develop skills in presentation, non-verbal communication, and emotional intelligence, with a strong focus on professional practice in the digital world.			
155DPFS_K	Digitization in Operational Phase of Construction	Z,ZK	4
122DKKS_K	Digitization of Quality Control in Civil Engineering	Z,ZK	2
124PNAV_K	Parametric design	Z	4
126PJDS_K	Project	KZ	5

Code of the group: NT202503_K
Name of the group: Digitalizace ve stavebnictví, 3. semestr
Requirement credits in the group: In this group you have to gain at least 24 credits

Requirement courses in the group: In this group you have to complete at least 2 courses
Credits in the group: 24
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
126DPDS_K	**Diploma Thesis**	Z	19	44B	Z	z
126OPDS_K	**Professional Practice**	Z	5	32B	Z	z

Characteristics of the courses of this group of Study Plan: Code=NT202503_K Name=Digitalizace ve stavebnictví, 3. semestr

126DPDS_K	Diploma Thesis				Z	19
126OPDS_K	Professional Practice				Z	5

Name of the block: Compulsory courses in the program
Minimal number of credits of the block: 30
The role of the block: P

Code of the group: NT202501_K
Name of the group: Digitalizace 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 8 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
126DSTA_K	**Digitalization in Civil Engineering**	ZK	4	12B	Z	P
126DATM_K	**Data Management**	Z,ZK	4	12B	Z	P
132PYT1_K	**Computing in Python 1**	Z	3	12B	Z	P
126DOCS_K	**Digitization in Construction Pricing**	Z,ZK	4	16B	Z	P
126DASY_K	**Database Systems**	Z,ZK	4	16B	Z	P
124DNRS_K	**Digitization in Design and Construction Execution**	KZ	4	16B	Z	P
126COMS_K	**Commissioning**	Z,ZK	3	8B	Z	P
126DKSZ_K	**Digital Communication and Contract Assurance**	Z,ZK	4	12B	Z	P

Characteristics of the courses of this group of Study Plan: Code=NT202501_K Name=Digitalizace ve stavebnictví, 1. semestr

126DSTA_K	Digitalization in Civil Engineering	ZK	4
126DATM_K	Data Management	Z,ZK	4
132PYT1_K	Computing in Python 1	Z	3
126DOCS_K	Digitization in Construction Pricing	Z,ZK	4
126DASY_K	Database Systems	Z,ZK	4
	Modeling of relational databases, basics of SQL language for creating relational database, manipulation of data in database, retrieving data from database. Principles of object-oriented modeling and its application in EXPRESS modeling language, STEP data format and their use in IFC data structure, structure and basic content of IFC data.		
124DNRS_K	Digitization in Design and Construction Execution	KZ	4
126COMS_K	Commissioning	Z,ZK	3
126DKSZ_K	Digital Communication and Contract Assurance	Z,ZK	4
	Within the course, the student will learn about tools enabling digital communication in construction projects during preparation and implementation. Furthermore, the student will learn the basics of enterprise business architecture of information systems and contractual provision of information systems. Within the course, the student will also learn about information systems such as data warehouses, document management systems, shared data environments and ticketing systems and their application for digital communication within construction projects.		

Name of the block: Compulsory elective courses
Minimal number of credits of the block: 8
The role of the block: PV

Code of the group: NT202502PV_K
Name of the group: Digitalizace ve stavebnictví, povinn volitelné p edm ty, 2. semestr
Requirement credits in the group: In this group you have to gain at least 2 credits

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

Credits in the group: 2

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
132YPYT2_K	**Computing in Python 2**	Z	2	8B	L	PV
132YMAT_K	**Computing in Matlab**	Z	2	8B	L	PV
126YVBA_K	**Computing in VBA**	Z	2	8B	L	PV

Characteristics of the courses of this group of Study Plan: Code=NT202502PV_K Name=Digitalizace ve stavebnictví, povinn volitelné p edm ty, 2. semestr

132YPYT2_K	Computing in Python 2		Z	2
132YMAT_K	Computing in Matlab		Z	2
This course focuses on developing students' programming skills in MATLAB.				
126YVBA_K	Computing in VBA		Z	2

Code of the group: NT202503PV_K

Name of the group: Digitalizace ve stavebnictví, povinn volitelné p edm ty, 3. semestr

Requirement credits in the group: In this group you have to gain at least 6 credits

Requirement courses in the group: In this group you have to complete at least 3 courses

Credits in the group: 6

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
126YASU_K	**Data Analysis and Machine Learning**	Z	2	8B	Z	PV
155YPMV_K	**Advanced Visualization Methods**	Z	2	8B	Z	PV
126YKBR_K	**Cybersecurity and IT Risk Management**	Z	2	8B	Z	PV
122YRST_K	**Robotic and Special Technologies**	Z	2	8B	Z	PV
125YENB_K	**Building Energy Efficiency**	Z	2	8B	Z	PV
126YMIS_K	**Managerial Information Systems**	Z	2	8B	Z	PV
134YTNK_K	**Information technology in Fundamentals of Sustainable Structural Design**	Z	2	8B	Z	PV

Characteristics of the courses of this group of Study Plan: Code=NT202503PV_K Name=Digitalizace ve stavebnictví, povinn volitelné p edm ty, 3. semestr

126YASU_K	Data Analysis and Machine Learning		Z	2
155YPMV_K	Advanced Visualization Methods		Z	2
126YKBR_K	Cybersecurity and IT Risk Management		Z	2
The course provides students with a broad spectrum of knowledge and skills in the field of cyber security and risk management in an IT environment. Upon completion of the course, students will be able to successfully identify and minimize risks associated with cyber security within the construction industry. Students will also be able to understand international standards and guidelines for cyber security, as well as relevant Czech legislation.				
122YRST_K	Robotic and Special Technologies		Z	2
During the course, students will be introduced to the basics of robotics, the basics of industrial automation, the programming of industrial robots in construction technology, and the basics of parametric modeling and its use for controlling industrial robots.				
125YENB_K	Building Energy Efficiency		Z	2
126YMIS_K	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.				
134YTNK_K	Information technology in Fundamentals of Sustainable Structural Design		Z	2

List of courses of this pass:

Code	Name of the course	Completion	Credits
105PDKS_K	Law in Digitization and Communication in Digital World	KZ	3
This course prepares students for the legal and communication aspects related to the BIM (Building Information Management) methodology, which is becoming mandatory for certain public contracts. Emphasis is placed not only on understanding copyright law, the management of digital databases, and licensing contracts but also on the ability to communicate project outcomes clearly and convincingly in both digital and public spaces. Students will develop skills in presentation, non-verbal communication, and emotional intelligence, with a strong focus on professional practice in the digital world.			
122DKKS_K	Digitization of Quality Control in Civil Engineering	Z,ZK	2
122YRST_K	Robotic and Special Technologies	Z	2
During the course, students will be introduced to the basics of robotics, the basics of industrial automation, the programming of industrial robots in construction technology, and the basics of parametric modeling and its use for controlling industrial robots.			
124DNRS_K	Digitization in Design and Construction Execution	KZ	4
124PNAV_K	Parametric design	Z	4
125DNPS_K	Digitization in HVAC Service Design and Operation	Z,ZK	3
125YENB_K	Building Energy Efficiency	Z	2
126COMS_K	Commissioning	Z,ZK	3
126DASY_K	Database Systems	Z,ZK	4
Modeling of relational databases, basics of SQL language for creating relational database, manipulation of data in database, retrieving data from database. Principles of object-oriented modeling and its application in EXPRESS modeling language, STEP data format and their use in IFC data structure, structure and basic content of IFC data.			
126DATM_K	Data Management	Z,ZK	4
126DKSZ_K	Digital Communication and Contract Assurance	Z,ZK	4
Within the course, the student will learn about tools enabling digital communication in construction projects during preparation and implementation. Furthermore, the student will learn the basics of enterprise business architecture of information systems and contractual provision of information systems. Within the course, the student will also learn about information systems such as data warehouses, document management systems, shared data environments and ticketing systems and their application for digital communication within construction projects.			
126DOCS_K	Digitization in Construction Pricing	Z,ZK	4
126DPDS_K	Diploma Thesis	Z	19
126DSTA_K	Digitalization in Civil Engineering	ZK	4
126OPDS_K	Professional Practice	Z	5
126PJDS_K	Project	KZ	5
126SYPR_K	Management Support Systems	Z,ZK	3
This course aims to provide knowledge of standards and tools for management support. The whole course is introduced by topics that aim to explain the basic background of system management support and concepts in this area. The course focuses on process modelling, its relation to the specification of requirements for software systems and the specifics of the application of process modelling in the construction industry - especially in relation to building information modelling.			
126YASU_K	Data Analysis and Machine Learning	Z	2
126YKBR_K	Cybersecurity and IT Risk Management	Z	2
The course provides students with a broad spectrum of knowledge and skills in the field of cyber security and risk management in an IT environment. Upon completion of the course, students will be able to successfully identify and minimize risks associated with cyber security within the construction industry. Students will also be able to understand international standards and guidelines for cyber security, as well as relevant Czech legislation.			
126YMIS_K	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.			
126YVBA_K	Computing in VBA	Z	2
132PYT1_K	Computing in Python 1	Z	3
132YMAT_K	Computing in Matlab	Z	2
This course focuses on developing students' programming skills in MATLAB.			
132YPYT2_K	Computing in Python 2	Z	2
134YTNK_K	Information technology in Fundamentals of Sustainable Structural Design	Z	2
154VMGD_K	Advanced Methods in Geodesy and Digitization	Z,ZK	4
155DPFS_K	Digitization in Operational Phase of Construction	Z,ZK	4
155YPMV_K	Advanced Visualization Methods	Z	2

For updated information see http://bilakniha.cvut.cz/en/FF.html
Generated: day 2025-08-11, time 15:40.