Study plan

Name of study plan: Open Informatics - Computer Games and Graphics 2025

Faculty/Institute/Others: Faculty of Electrical Engineering

Department:

Branch of study guaranteed by the department: Welcome page

Garantor of the study branch: Program of study: Open Informatics Type of study: Bachelor full-time

Required credits: 163
Elective courses credits: 17
Sum of credits in the plan: 180

Note on the plan:

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 133

The role of the block: P

Code of the group: 2025_BOIBAP Name of the group: Bachelor Project

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 1 course

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
BBAP20	Bachelor thesis Roman Čmejla Roman Čmejla (Gar.)	Z	20	12S	L,Z	Р

Characteristics of the courses of this group of Study Plan: Code=2025_BOIBAP Name=Bachelor Project

BBAP20 Bachelor thesis Z 20

Code of the group: 2025 BOIBBE

Name of the group: Safety of the bachelor's studies

Requirement credits in the group:

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

Credits in the group: 0 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
BEZB	Safety in Electrical Engineering for a Bachelor's Degree Ivana Nová, Radek Havlíček, Vladimír Kůla Radek Havlíček Vladimír Kůla (Gar.)	Z	0	2BP+2BC	Z,L	Р
BEZZ	Basic Health and Occupational Safety Regulations Ivana Nová, Radek Havlíček, Vladimír Kůla Radek Havlíček Vladimír Kůla (Gar.)	Z	0	2BP+2BC	Z	Р

Characteristics of the courses of this group of Study Plan: Code=2025_BOIBBE Name=Safety of the bachelor's studies

BEZB	Safety in Electrical Engineering for a Bachelor's Degree		, 0			
The purpose of the safety course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from operation of it. This introductory course						
contains fundamentals	purpose of the safety course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from operation of it. This introductory course tains fundamentals of Safety Electrical Engineering. In this way the students receive qualification of instructed person that enables them to work on electrical equipment.					
BEZZ	Z	0				

The guidelines were worked out based on The Training Scheme for Health and Occupational Safety designed for employees and students of the Czech Technical University in Prague, which was provided by the Rector's Office of the CTU. Safety is considered one of the basic duties of all employees and students. The knowledge of Health and Occupational Safety regulations forms an integral and permanent part of qualification requirements. This program is obligatory.

Code of the group: 2025_BOIP

Name of the group: Compulsory subjects of the programme

Requirement credits in the group: In this group you have to gain 113 credits

Requirement courses in the group: In this group you have to complete 20 courses

Credits in the group: 113

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
B4B33ALG	Algorithms Daniel Průša, Robert Pěnička Daniel Průša Daniel Průša (Gar.)	Z,ZK	6	2P+2C	Z	Р
B4B35APO	Computer Architectures Pavel Píša	Z,ZK	6	2P+2L	L	Р
B4B36DBS	Database Systems Martin Řimnáč Martin Řimnáč Martin Řimnáč (Gar.)	Z,ZK	5	2P+2C	L	Р
B4B01DMA	Discrete Mathematics Petr Habala Petr Habala Petr Habala (Gar.)	Z,ZK	5	2P+2S	Z	Р
B0B01LAG	Linear Algebra Daniel Gromada, Jiří Velebil, Jakub Rondoš, Natalie Žukovec, Matěj Dostál Jiří Velebil Jiří Velebil (Gar.)	Z,ZK	8	4P+2S	Z	Р
B0B01LGR	Logic and Graphs Natalie Žukovec, Matěj Dostál, Alena Gollová Matěj Dostál Marie Demlová (Gar.)	Z,ZK	5	3P+2S	Z,L	Р
B0B01MA1	Mathematical Analysis 1 Martin Křepela, Josef Tkadlec, Josef Dvořák, Veronika Sobotíková Josef Tkadlec Josef Tkadlec (Gar.)	Z,ZK	7	4P+2S	Z,L	Р
B0B01MA2	Mathematical Analysis 2 Martin Bohata, Miroslav Korbelář, Petr Hájek, Jaroslav Tišer, Karel Pospíšil, Paola Vivi, Hana Turčinová Martin Bohata Jaroslav Tišer (Gar.)	Z,ZK	7	4P+2S	L,Z	Р
B4B33OSY	Operating Systems Petr Štěpán Michal Sojka (Gar.)	Z,ZK	4	2P+2C	Z	Р
B4B35OSY	Operating Systems Michal Sojka, Petr Štěpán Michal Sojka Michal Sojka (Gar.)	Z,ZK	4	2P+2C	Z	Р
B0B33OPT	Optimization Tomáš Werner, Petr Olšák, Mirko Navara, Tomáš Kroupa Tomáš Kroupa Tomáš Werner (Gar.)	Z,ZK	7	4P+2C	Z,L	Р
B4B36PDV	Parallel and Distributed Computing Matěj Kafka, Michal Jakob Michal Jakob (Gar.)	Z,ZK	6	2P+2C	L	Р
B4B38PSIB	Computer Networks Jiří Novák, Jan Holub Jiří Novák Jiří Novák (Gar.)	Z,ZK	6	2P+2L	L	Р
B4B33PSY	Computer systems Petr Štěpán, Matéj Kafka, Jakub Dupák, Pavel Píša Petr Štěpán Petr Štěpán (Gar.)	KZ	5	2P+2C	Z	Р
B0B01PST	Probability and Statistics Kateřina Helisová, Jakub Staněk Kateřina Helisová (Gar.)	Z,ZK	7	4P+2S	Z	Р
B0B36PRP	Procedural Programming Jan Faigl Jan Faigl (Gar.)	Z,ZK	6	2P+2C	Z	Р
B0B36PJV	Programming in Java Jiří Vokřínek, Martin Mudroch, Ladislav Serédi Jiří Vokřínek Jiří Vokřínek (Gar.)	Z,ZK	6	2P+3C+7C	L	Р
B4B36PKT	Příprava ke státnicím Jan Faigl, Jiří Kléma Jan Faigl Jiří Kléma (Gar.)	Z	1	8P+8S	L	Р
B4B33RPH	Solving Problems and other Games Tomáš Svoboda, Petr Pošík Petr Pošík Tomáš Svoboda (Gar.)	KZ	6	2P+3C	Z	Р
B4BPROJ6	Unassisted project Tomáš Svoboda, Petr Pošík, Jiří Šebek, Jaroslav Sloup, Ivan Jelínek, Katarína Žmolíková Jaroslav Sloup	Z	6	0+2	Z,L	Р

Characteristics of the courses of this group of Study Plan: Code=2025_BOIP Name=Compulsory subjects of the programme

B4B33ALG	Algorithms	Z,ZK	6			
In the course, the algorithms development is constructed with minimum dependency to programming language; nevertheless the lectures and seminars are based on Java. Basic data						
types a data structures	types a data structures, basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching, sorting, special application algorithms, Dynamic programming.					
Students are able to de	Students are able to design and construct non-trivial algorithms and to evaluate their effectivity.					
B4B35APO	Computer Architectures	Z,ZK	6			

B4B35APO	Computer Architectures	Z,ZK	6
B4B36DBS	Database Systems	Z,ZK	5
B4B01DMA	Discrete Mathematics	Z,ZK	5

In this course students meet some important topics from the field of discrete mathematics. Namely, they will explore divisibility and calculations modulo n, diophantine equations, binary relations, mappings, cardinality of sets, induction, and recurrence equations. The second aim of this course is to teach students the language of mathematics, both passively and actively, and introduce them to mathematics as science.

BUBUTLAG	Linear Algebra	Z,ZN	8
The course covers the in	itial parts of linear algebra. Firstly, the basic notions of a linear space and linear mappings are covered (linear dependence and	independence, ba	asis, coordinates,
etc). The calculus of ma	trices (determinants, inverse matrices, matrices of a linear map, eigenvalues and eigenvectors, diagonalisation, etc) is cover	ed next. The appl	ications include
solving systems of linea	r equations, the geometry of a 3D space (including the scalar product and the vector product) and SVD.		

B0B01LGR	Logic and Graphs	Z,ZK	5
This course covers bas	ics of mathematical logic and graph theory. Syntax and semantics of propositional and predicate logic are introduced. The impo	rtance of the notion	of consequence
and of the relationship	between a formula and its model is stressed. Further, basic notions from graph theory are introduced.		
B0B01MA1	Mathematical Analysis 1	Z.ZK	7
The aim of the course	is to introduce students to basics of differential and integral calculus of functions of one variable.	,	1
B0B01MA2	Mathematical Analysis 2	Z.ZK	7
The subject covers an	introduction to the differential and integral calculus in several variables and basic relations between curve and surface integr	rals. Other part con	tains function
series and power serie	s with application to Taylor and Fourier series.	•	
B4B33OSY	Operating Systems	Z,ZK	4
Lecture introduces ope	ration system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, or	drivers, file systems	s, basic security
aspects. These topics	are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from O	S in C programmir	ng language will
be solved on labs. Stud	dents will work with Linux OS and micro-kernel NOVA.		
B4B35OSY	Operating Systems	Z,ZK	4
Lecture introduces ope	ration system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, or	drivers, file systems	s, basic security
aspects. These topics	are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from O	S in C programmir	ng language will
be solved on labs. Stud	dents will work with Linux OS and micro-kernel NOVA.		
B0B33OPT	Optimization	Z,ZK	7
The course provides ar	introduction to mathematical optimization, specifically to optimization in real vector spaces of finite dimension. The theory is ill	ustrated with a num	ber of examples.
You will refresh and ex	tend many topics that you know from linear algebra and calculus courses.		
B4B36PDV	Parallel and Distributed Computing	Z,ZK	6
B4B38PSIB	Computer Networks	Z,ZK	6
B4B33PSY	Computer systems	KZ	5
B0B01PST	Probability and Statistics	Z,ZK	7
B0B36PRP	Procedural Programming	Z,ZK	6
The course accompani	es basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data st	ructures and proce	ssing user inputs
are developed. Studen	ts master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for o	creating readable a	ınd reusable
programs. At the same	time, the effort is to build students an overview of the program operation, data model, memory access, and management. There	refore, the C progra	mming language
is used that provides a	direct link between the program data structures and their representation in the computer memory. Students will get acquainte	d not only with pro	gram compilation
	h debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functional		•
· ·	is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of		using existing
· ·	iation of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected task		
B0B36PJV	Programming in Java	Z,ZK	6
	ne basics of algorithms and programming from the first semester and introduces students to the Java environment. The cour		
	The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working	•	
	mportant topic is models of multithreaded applications and their implementation. Practical exercises of practical skills and kno and semester work, which will be submitted continuously through the source code version control system. The semester wo	•	
	ncy of the code, as well as points that take into account the quality of the source codes, their readability and reusability.	irk scoring consists	or points for the
B4B36PKT	Příprava ke státnicím	Z	1
B4B33RPH	Solving Problems and other Games	KZ	6
	to let students to deal with real-world problems properly. When working on real problems the student shall learn how to deci	ı	1
	to test and validate individual steps and so on. Many problems will actually be beyond the first-year-student skills. And many		
1	ved parts should motivate the students to study difficult theoretical subjects. They should generate the important questions.	•	
1 '	eager to study deeper about informatics. The course also explains the basis of the object oriented design, software testing, v	•	•
codes.	, , , , , , , , , , , , , , , , , , ,	,	

B4BPROJ6 Unassisted project Z

Code of the group: 2025_BZAJ

Name of the group: Exam from the english language

Requirement credits in the group:

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

Credits in the group: 0

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
B0B04B1K	English language B1 - classified assessment Markéta Havlíčková, Pavla Péterová, Erik Peter Stadnik, Michael Ynsua, Petra Juna Jennings Petra Juna Jennings Petra Juna Jennings (Gar.)	KZ	0	0C	Z,L	Р
B0B04B2Z	English language B2 - exam Markéta Havlíčková, Michael Ynsua, Petra Juna Jennings, Dana Saláková Petra Juna Jennings Petra Juna Jennings (Gar.)	Z,ZK	0	0C	Z,L	Р

Characteristics of the courses of this group of Study Plan: Code=2025_BZAJ Name=Exam from the english language

B0B04B1K	English language B1 - classified assessment	KZ	0
verifying of the student'	s skills of B1 level		

B0B04B2Z English language B2 - exam

Z.ZK

0

I) The B2 English Exam is a compulsory subject for all Faculty of Electrical Engineering students at the Czech Technical University. According to the Study and Examination Rules and Regulations for Students at CTU (Part III, Article 4), a compulsory subject is one whose completion is a necessary condition in order to successfully complete the study programme. In addition, this requires the passing of an examination evaluated on the scale A, B, C, D, or E (SERR Part III, Article 6). II) According to the Common European Framework of Reference for Languages (CEFR), an international standard for describing language ability, the definition of an English language learner who has achieved the B2 (Upper-Intermediate) level is one who can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options. III) Students who have successfully passed an approved international exam within the past five years may present their certificate to the Department of Languages, Faculty of Electrical Engineering. Upon approval, students are then exempt from both the Written Test and the Oral Part. For a list of approved international exams go to the department website: http://jazyky.fel.cvut.cz/

Name of the block: Povinné předměty zaměření Minimal number of credits of the block: 30

The role of the block: PZ

Code of the group: 2025 BOIPS4

Name of the group: Compulsory subjects of the branch

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 5 courses

Credits in the group: 30

Note on the group:

Specializace - počítačové hry a grafika

vote 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
B4B39IUR	User interfaces implementation Miroslav Macík Miroslav Macík Miroslav Macík (Gar.)	Z,ZK	6	2P+2S	Z	PZ
B4B39HRY	Computer Games Jiří Bittner, David Sedláček David Sedláček Jiří Bittner (Gar.)	Z,ZK	6	2P+2C	Z	PZ
B0B39PGR	Computer graphics programming Jaroslav Sloup, Petr Felkel Jaroslav Sloup Petr Felkel (Gar.)	Z,ZK	6	2P+2C+8D	L	PZ
BE4B39VGO	Creating graphic content Ladislav Čmolík Ladislav Čmolík (Gar.)	Z,ZK	6	2P+2C+8D	Z	PZ
B4B36ZUI	Introduction to Artificial Intelligence Viliam Lisý, Branislav Bošanský Branislav Bošanský Michal Pěchouček (Gar.)	Z,ZK	6	2P+2C	L	PZ

Characteristics of the courses of this group of Study Plan: Code=2025_BOIPS4 Name=Compulsory subjects of the branch

B4B39IUR	User interfaces implementation	Z,ZK	6
Based on the user inter	ace specification (created by design team), the student will be able to implement user interface and communicate efficiently	with other stakeho	olders taking part

in the whole process of design, testing, and implementation of the user interface.

B4B39HBY Computer Games

B4B39HRY | Computer Games | Z,ZK | 6 | Students familiarize themselves with the issues encountered during programming computer games. They learn topics such as 3D model representation, animations, collision detection, physical simulation, and real-time rendering in the context of computer games development. During exercises they will develop a computer game in teams: from the game concept and

design document, through programming game mechanics to the presentation in front of a jury of experts. The exercises are build around the Unity framework.

B0B39PGR	Computer graphics programming	Z,ZK	6
BE4B39VGO	Creating graphic content	Z,ZK	6

The aim of this course is to provide theory behind geometric modeling and modeling of materials, give students an overview of methods used in the process of creating 2D and 3D graphics and how to apply those methods in praxis. At the seminars, students will learn how to design and create three-dimensional scene, create and apply textures imitating materials (e.g., wall finishes, wood, sky) and geometrical details, and position and set-up lights in the scene.

B4B36ZUI Introduction to Artificial Intelligence

Z,ZK

6

The aim of the course is to cover the basics of symbolic artificial intelligence. We will focus on algorithms of informed and uninformed state space search, problem representation and solving, representation of knowledge using formal logic, methods of automated reasoning, and an introduction to Markov decision making, and to two-player games. This course is also part of the inter-university programme prg.ai Minor. It pools the best of AI education in Prague to provide students with a deeper and broader insight into the field of artificial intelligence. More information is available at https://prg.ai/minor.

Name of the block: Elective courses Minimal number of credits of the block: 0

The role of the block: V

Code of the group: 2025 BOIH

Name of the group: Humanities subjects

Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0 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
B0B16ET1	Ethic 1 Vladimír Slámečka Vladimír Slámečka (Gar.)	KZ	4	2P+2C	Z	V
B0B16FIL	Philosophy Peter Zamarovský Peter Zamarovský (Gar.)	ZK	2	2P+0S	Z,L	V
B0B16FI1	Philosophy 1 Peter Zamarovský Peter Zamarovský (Gar.)	KZ	4	2P+2S	Z	V
B0B16HTE	History of technology and economic Marcela Efmertová, Jan Mikeš Marcela Efmertová (Gar.)	ZK	2	2P+0S	Z,L	V
B0B16HT1	History of science and technology 1 Marcela Efmertová, Jan Mikeš Marcela Efmertová (Gar.)	KZ	4	2P+2S	Z	V
B0B16HI1	History 1 Milena Josefovičová Milena Josefovičová (Gar.)	KZ	4	2P+2S	Z	V
B0B16MPS	Psychology Jan Fiala Jan Fiala (Gar.)	Z,ZK	4	2P+2S	Z,L	V
B0B16MPL	Psychology for managers Jan Fiala Jan Fiala (Gar.)	ZK	2	2P+0S	Z,L	٧

Characteristics of the courses of this group of Study Plan: Code=2025 BOIH Name=Humanities subjects

B0B16ET1	Ethic 1	KZ	4
Aim of this subject is	o provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various	situations of hum	ian life. Essential
parts of the subject a	e discussions in which students can react to lectures but also to actual questions coming with news and look for the communa	ıl answers.	
B0B16FIL	Philosophy	ZK	2
We deal with the mos	t important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philo	sophy and conne	ction of old
philosophical thought	s with recent problems of science, technology, economics and politics.		
B0B16FI1	Philosophy 1	KZ	4
We deal with the mos	t important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philo	sophy and conne	ction of old
philosophical thought	s with recent problems of science, technology, economics and politics.		
B0B16HTE	History of technology and economic	ZK	2
B0B16HT1	History of science and technology 1	KZ	4
B0B16HI1	History 1	KZ	4
B0B16MPS	Psychology	Z,ZK	4
DOD TOWN O	7 07		

Code of the group: 2025_BJKA

Name of the group: English language courses

Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0
Note on the group:

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
B0B04A21	English Language A2-1 Dana Saláková	Z		2s	Z	V
B0B04A22	English Language A2-2 Dana Saláková	Z	0	2s	L	V
B0B04B11	English Language B1-1 Petra Juna Jennings Petra Juna Jennings (Gar.)	Z	0	2C	Z	٧
B0B04B12	English Language B1-2 Petra Juna Jennings Petra Juna Jennings (Gar.)	Z	0	2C	L	٧
B0B04B21	English Language B2-1 Petra Juna Jennings Petra Juna Jennings (Gar.)	Z	3	2C	Z	٧
B0B04B22	English Language B2-2 Petra Juna Jennings Petra Juna Jennings (Gar.)	Z	3	2C	Z,L	V

Characteristics of the courses of this group of Study Plan: Code=2025 BJKA Name=English language courses

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B0B04A21	English Language A2-1	Z	
The course is open to s	tudents who are beginners in their second language. Course objective: Achieving competence in basic English.		
B0B04A22	English Language A2-2	Z	0
The course is open to s	tudents who are beginners in their second foreign language. The course objective is to develop and sustain their basic knowl	edge of the Engli	sh language.
B0B04B11	English Language B1-1	Z	0
Course objective: Broad	ening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary	expansion; under	standing spoken
English.			
B0B04B12	English Language B1-2	Z	0
Course objective: Broad	ening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary	expansion; under	standing spoken
English.			

B0B04B21 English Language B2-1

Z

This course is designed as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 - zkouška - B0B04B2Z*). While the course is focused on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark), it also focuses more on the academic and technical vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropriate level of English for Erasmus / International Study.

B0B04B22 English Language B2-2

Z

3

This course is designed as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 - zkouška - B0B04B2Z*). While the course is focused on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark), it also focuses more on the academic and technical vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropriate level of English for Erasmus / International Study.

Code of the group: BTV

Name of the group: Physical education

Requirement credits in the group:

Requirement courses in the group:

Credits in the group: 0 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
TVV	Physical education	Z	0	0+2	Z,L	٧
TV-V1	Physical education	Z	1	0+2	Z,L	V
TVV0	Physical education	Z	0	0+2	Z,L	٧

Characteristics of the courses of this group of Study Plan: Code=BTV Name=Physical education

TVV	Physical education	Z	0
TV-V1	Physical education	Z	1
TVV0	Physical education	Z	0

Code of the group: BTVK

Name of the group: Physical education courses

Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0

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
TVKLV	Physical Education Course	Z	0	7dní	L	V
TVKZV	Physical Education Course	Z	0	7dní	Z	V

Characteristics of the courses of this group of Study Plan: Code=BTVK Name=Physical education courses

TVKLV	Physical Education Course	Z	0
TVKZV	Physical Education Course	Z	0

Code of the group: 2025_BOIVOL Name of the group: Elective subjects Requirement credits in the group: Requirement courses in the group:

Credits in the group: 0

Note on the group: ~Nabídku volitelných předmětů uspořádaných podle kateder najdete na webových stránkách

http://www.fel.cvut.cz/cz/education/volitelne-predmety.html\\

List of courses of this pass:

Code	Name of the course	Completion	Credits
B0B01LAG	Linear Algebra	Z,ZK	8
	ne initial parts of linear algebra. Firstly, the basic notions of a linear space and linear mappings are covered (linear dependence and inde	-	
etc). The calculus o	f matrices (determinants, inverse matrices, matrices of a linear map, eigenvalues and eigenvectors, diagonalisation, etc) is covered solving systems of linear equations, the geometry of a 3D space (including the scalar product and the vector product) and SV	• • •	ons include
B0B01LGR	Logic and Graphs	Z,ZK	5
This course covers b	asics of mathematical logic and graph theory. Syntax and semantics of propositional and predicate logic are introduced. The importance and of the relationship between a formula and its model is stressed. Further, basic notions from graph theory are introduced.		onsequence
B0B01MA1	Mathematical Analysis 1	Z,ZK	7
DODO1MAO	The aim of the course is to introduce students to basics of differential and integral calculus of functions of one variable.	Z,ZK	7
B0B01MA2 The subject covers	Mathematical Analysis 2 s an introduction to the differential and integral calculus in several variables and basic relations between curve and surface integrals. series and power series with application to Taylor and Fourier series.	•	-
B0B01PST	Probability and Statistics	Z,ZK	7
B0B04A21	English Language A2-1	Z	
5050 17 12 1	The course is open to students who are beginners in their second language. Course objective: Achieving competence in basic E		
B0B04A22	English Language A2-2	Z	0
The course is ope	n to students who are beginners in their second foreign language. The course objective is to develop and sustain their basic knowled	lge of the English	language.
B0B04B11 Course objective: Br	English Language B1-1 oadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary exp	Z ansion; understan	0 ding spoken
Dono (E. c.	English.		
B0B04B12	English Language B1-2	Z	0
Course objective: Br	oadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary exp English.	ansion; understan	aing spoken
B0B04B1K	English language B1 - classified assessment	KZ	0
	verifying of the student's skills of B1 level		
B0B04B21	English Language B2-1	Z	3
-	ned as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 -		
	sed on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark),		
academic and techn	ical vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropria / International Study.	te level of English	or Erasmus
B0B04B22	English Language B2-2	Z	3
_	ned as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 -		
	sed on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark), ical vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropria / International Study.		
B0B04B2Z	English language B2 - exam	Z,ZK	0
	ram is a compulsory subject for all Faculty of Electrical Engineering students at the Czech Technical University. According to the Students	,	-
· -	lents at CTU (Part III, Article 4), a compulsory subject is one whose completion is a necessary condition in order to successfully com	=	
addition, this require	es the passing of an examination evaluated on the scale A, B, C, D, or E (SERR Part III, Article 6). II) According to the Common Europe	oean Framework o	f Reference
for Languages (CE	FR), an international standard for describing language ability, the definition of an English language learner who has achieved the B2	(Upper-Intermedia	ate) level is
	tand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisati		_
	aneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed te	_	-
•	point on a topical issue giving the advantages and disadvantages of various options. III) Students who have successfully passed an ears may present their certificate to the Department of Languages, Faculty of Electrical Engineering. Upon approval, students are ther	• •	
within the past hve y	Test and the Oral Part. For a list of approved international exams go to the department website: http://jazyky.fel.cvut.cz/	r oxompt from both	Turio William
	Ethic 1	KZ	4
B0B16ET1			
B0B16ET1 Aim of this subject is	s to provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various situ	ations of human li	e. Essential
Aim of this subject is	s to provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various situ the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the co		e. Essential
Aim of this subject is			e. Essential
Aim of this subject is parts of B0B16FI1	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the subject are discussed in the s	mmunal answers.	4
Aim of this subject is parts of B0B16FI1 We deal with the	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the concerned especially on transdisciplinary nature of philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics.	mmunal answers. KZ ophy and connecti	4 on of old
Aim of this subject is parts of B0B16FI1 We deal with the	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the concentration of the conc	mmunal answers. KZ ophy and connecti ZK	4 on of old
Aim of this subject is parts of B0B16FI1 We deal with the	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the concerned especially on transdisciplinary nature of philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics.	mmunal answers. KZ ophy and connecti ZK	4 on of old
Aim of this subject is parts of B0B16FI1 We deal with the	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of the content philosophy 1 most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy philosophical thoughts with recent problems of science, technology, economics and politics. Philosophy most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy.	mmunal answers. KZ ophy and connecti ZK	4 on of old
Aim of this subject is parts of B0B16FI1 We deal with the B0B16FIL We deal with the	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the content of	mmunal answers. KZ ophy and connecti ZK ophy and connecti	4 on of old 2 on of old
Aim of this subject is parts of B0B16FI1 We deal with the B0B16FIL We deal with the B0B16HI1	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the comphilosophy 1 most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. Philosophy most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. History 1 History of science and technology 1	mmunal answers. KZ ophy and connecti ZK ophy and connecti KZ	4 on of old 2 on of old 4
Aim of this subject is parts of B0B16FI1 We deal with the B0B16FIL We deal with the B0B16HI1 B0B16HT1 B0B16HTE	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the comphilosophy 1 most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. Philosophy most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. History 1 History of science and technology 1 History of technology and economic	mmunal answers. KZ ophy and connecti ZK ophy and connecti KZ KZ ZK	4 on of old 2 on of old 4 4 4 2
Aim of this subject is parts of B0B16FI1 We deal with the B0B16FIL We deal with the B0B16HI1 B0B16HT1 B0B16HTE B0B16MPL	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the comphilosophy 1 most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. Philosophy most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. History 1 History of science and technology 1 History of technology and economic Psychology for managers	mmunal answers. KZ ophy and connecti ZK ophy and connecti KZ KZ ZK ZK ZK	4 on of old 2 on of old 4 4 2 2
Aim of this subject is parts of B0B16FI1 We deal with the B0B16FIL We deal with the B0B16HI1 B0B16HT1 B0B16HTE	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the comphilosophy 1 most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. Philosophy most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophical thoughts with recent problems of science, technology, economics and politics. History 1 History of science and technology 1 History of technology and economic	mmunal answers. KZ ophy and connecti ZK ophy and connecti KZ KZ ZK	4 on of old 2 on of old 4 4 4 2

B0B36PJV	Programming in Java	Z,ZK	6
	on the basics of algorithms and programming from the first semester and introduces students to the Java environment. The course also	,	1
	ge. The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working with		
Il be introduced.	An important topic is models of multithreaded applications and their implementation. Practical exercises of practical skills and knowledg	e of Java is test	ed in the for
solving partial ta	isks and semester work, which will be submitted continuously through the source code version control system. The semester work sco	•	points for th
	correctness and efficiency of the code, as well as points that take into account the quality of the source codes, their readability and re	eusability.	
B0B36PRP	Procedural Programming	Z,ZK	6
-	panies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structure	-	-
•	Students master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for crea	•	
-	ame time, the effort is to build students an overview of the program operation, data model, memory access, and management. Therefore,		
	es a direct link between the program data structures and their representation in the computer memory. Students will get acquainted not on with debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionality and		-
•	dence is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of a la		
	plementations. Evaluation of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the se		
B0B39PGR	Computer graphics programming	Z,ZK	6
B4B01DMA	Discrete Mathematics	Z,ZK	5
	ents meet some important topics from the field of discrete mathematics. Namely, they will explore divisibility and calculations modulo n,		_
	ngs, cardinality of sets, induction, and recurrence equations. The second aim of this course is to teach students the language of mathe		
	actively, and introduce them to mathematics as science.		
B4B33ALG	Algorithms	Z,ZK	6
the course, the a	algorithms development is constructed with minimum dependency to programming language; nevertheless the lectures and seminars a	re based on Jav	a. Basic dat
types a data stru	ctures, basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching, sorting, special application algorithm	ms, Dynamic pro	gramming.
D. (D. C.	Students are able to design and construct non-trivial algorithms and to evaluate their effectivity.		
B4B33OSY	Operating Systems	Z,ZK	4
	s operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, drivers		
ispecis. These top	oics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in 0 be solved on labs. Students will work with Linux OS and micro-kernel NOVA.	programming i	anguage wi
B4B33PSY		KZ	5
	Computer systems	KZ KZ	6
B4B33RPH	Solving Problems and other Games		1
	tion is to let students to deal with real-world problems properly. When working on real problems the student shall learn how to decompe how to test and validate individual steps and so on. Many problems will actually be beyond the first-year-student skills. And many prob		
	unsolved parts should motivate the students to study difficult theoretical subjects. They should generate the important questions. Ideal		
	be eager to study deeper about informatics. The course also explains the basis of the object oriented design, software testing, ways for	•	
		n willing readal	
ic stadent snould	codes.	n willing readal	io ana roba
	codes.		6
B4B35APO	codes. Computer Architectures	Z,ZK	
B4B35APO B4B35OSY	codes.	Z,ZK Z,ZK	6 4
B4B35APO B4B35OSY Lecture introduces	Computer Architectures Operating Systems	Z,ZK Z,ZK s, file systems, b	6 4 pasic security
B4B35APO B4B35OSY Lecture introduces	codes. Computer Architectures Operating Systems s operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, drivers	Z,ZK Z,ZK s, file systems, b	6 4 easic securit
B4B35APO B4B35OSY ecture introduces	codes. Computer Architectures Operating Systems s operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversoics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in	Z,ZK Z,ZK s, file systems, b	6 4 easic securit
B4B35APO B4B35OSY ecture introduces aspects. These top	codes. Computer Architectures Operating Systems soperation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversoics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Computer theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Computer theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Computer theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Computer theoretically described and demonstrated on Linux and Windows OS with multi-core systems.	Z,ZK Z,ZK s, file systems, b	6 4 assic security anguage wil
B4B35APO B4B35OSY ecture introduces aspects. These top	codes. Computer Architectures Operating Systems operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversoics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Obe solved on labs. Students will work with Linux OS and micro-kernel NOVA. Database Systems	Z,ZK Z,ZK s, file systems, b	6 4 easic securit anguage wi
B4B35APO B4B35OSY ecture introduces aspects. These top B4B36DBS B4B36PDV	codes. Computer Architectures Operating Systems operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversoics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Obe solved on labs. Students will work with Linux OS and micro-kernel NOVA. Database Systems Parallel and Distributed Computing Příprava ke státnicím	Z,ZK Z,ZK s, file systems, b programming l Z,ZK Z,ZK Z	6 4 asic security anguage wil
B4B35APO B4B35OSY Lecture introduces aspects. These top B4B36DBS B4B36PDV B4B36PKT B4B36ZUI The aim of the cou	codes. Computer Architectures Operating Systems soperation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversocics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Observation of the solved on labs. Students will work with Linux OS and micro-kernel NOVA. Database Systems Parallel and Distributed Computing Příprava ke státnicím Introduction to Artificial Intelligence rse is to cover the basics of symbolic artificial intelligence. We will focus on algorithms of informed and uninformed state space search	Z,ZK Z,ZK s, file systems, b programming l Z,ZK Z,ZK Z,ZK Z,ZK s, problem representations	6 4 assic securit anguage wi 5 6 1 6 sentation an
B4B35APO B4B35OSY Lecture introduces aspects. These top B4B36DBS B4B36PDV B4B36PKT B4B36ZUI The aim of the cousolving, represent	codes. Computer Architectures Operating Systems soperation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversocics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Observation of the solved on labs. Students will work with Linux OS and micro-kernel NOVA. Database Systems Parallel and Distributed Computing Příprava ke státnicím Introduction to Artificial Intelligence Intercomputing or informed and uninformed state space search tation of knowledge using formal logic, methods of automated reasoning, and an introduction to Markov decision making, and to two-process of the solution of the soluti	Z,ZK Z,ZK s, file systems, b programming l Z,ZK Z,ZK Z,ZK z,ZK s, problem represolayer games. Th	6 4 assic securit anguage wi 5 6 1 6 sentation an
B4B35APO B4B35OSY ecture introduces aspects. These top B4B36DBS B4B36PDV B4B36PKT B4B36ZUI the aim of the cou solving, represent	codes. Computer Architectures Operating Systems soperation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, driversoics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in Os be solved on labs. Students will work with Linux OS and micro-kernel NOVA. Database Systems Parallel and Distributed Computing Příprava ke státnicím Introduction to Artificial Intelligence rse is to cover the basics of symbolic artificial intelligence. We will focus on algorithms of informed and uninformed state space search tation of knowledge using formal logic, methods of automated reasoning, and an introduction to Markov decision making, and to two-pinter-university programme prg.ai Minor. It pools the best of AI education in Prague to provide students with a deeper and broader insignate.	Z,ZK Z,ZK s, file systems, b programming l Z,ZK Z,ZK Z,ZK z,ZK s, problem represolayer games. Th	6 4 assic security anguage wil 5 6 1 6 sentation an alis course is
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TVKZV	Physical Education Course	Z	0
TVV	Physical education	Z	0
TVV0	Physical education	Z	0

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