Study plan

Name of study plan: Open Informatics - Software 2016

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Welcome page Type of study: unknown full-time Required credits: 152 Elective courses credits: 28 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: 122 The role of the block: P

Code of the group: 2015_BOIAPP Name of the group: Subjects in english Requirement credits in the group: Requirement courses in the group: In this group you have to complete at least 1 course Credits in the group: 0

Note on the group:

Note on the gr						
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
BE4B33SEA	Subject in english - abroad Petr Pošík Petr Pošík Petr Pošík (Gar.)	Z,ZK	0		Z,L	Р
BE5B32PKS	Computer and Communication Networks Pavel Bezpalec Pavel Bezpalec	Z,ZK	6	2P + 2C	Z	Р
BE5B35APO	Computer Architectures Pavel Píša, Richard Šusta Pavel Píša Pavel Píša (Gar.)	Z,ZK	6	2P+2L	L	Р
BE4B38PSIA	Computer Networks Ji í Novák, Jan Holub Ji í Novák Ji í Novák (Gar.)	Z,ZK	5	2P+2L	L	Р
BE4B36FUP	Functional Programming Rostislav Hor ík, Tomáš Votroubek Rostislav Hor ík Michal P chou ek (Gar.)	Z,ZK	6	2P+2C	L	Р
BE4B36ZUI	Introduction to Artificial Intelligence Branislav Bošanský, Viliam Lisý Branislav Bošanský Branislav Bošanský (Gar.)	Z,ZK	6	2P+2C	L	Ρ
BE5B35LSP	Logic Systems and Processors Richard Šusta, Martin Hlinovský Martin Hlinovský Richard Šusta (Gar.)	Z,ZK	6	3P+2L	Z	Р
BE5B33RPZ	Pattern Recognition and Machine Learning Ond ej Drbohlav, Ji í Matas, Jan Šochman Jan Šochman Ji í Matas (Gar.)	Z,ZK	6	2P+2C	Z	Р
BE4B35PSR	Real-time Systems Programming Michal Sojka Michal Sojka Michal Sojka (Gar.)	Z,ZK	6	2P+2C	Z	Р
BE4B39VGO	Creating graphic content Ladislav molík Ladislav molík (Gar.)	Z,ZK	6	2P+2C+8C	Z	Р

Characteristics of the courses of this group of Study Plan: Code=2015_BOIAPP Name=Subjects in english

BE4B33SEA	Subject in english - abroad	Z,ZK	0				
The subject serves for validation of the duty to complete at least one compulsory course of the program in English.							
BE5B32PKS	Computer and Communication Networks	Z,ZK	6				
The aim of the course is	s to familiarize students with current trends in the switched local networks and the key functions of routing protocols in IP net	works. The course	is aimed rather				
primarily practically ther	n theoretically.						
BE5B35APO	Computer Architectures	Z,ZK	6				
Subject provides overvi	ew of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge present	ed in the previous	lectures of				
Structures of computer	systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsyste	em and basic over	rview of network				
and buses topologies. Emphasis is placed on clarification of interconnection of hardware components with software support, mainly lower levels of operating systems, device drivers							
and virtualization techniques. General principles are more elaborated during presentation of examples of multiple standard CPU architectures. Exercises are more focused on the							
software view to the cor	trary. Students are lead from basic programming on CPU level to the interaction with raw hardware.						

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BE4B38PSIA	Computer Networks	Z,ZK	5
	ciples and technologies of Computer Networks. Physical layer media, analog and digital modulations, network topologies, N		
	els, coding and cryptography basics are introduced. Widely used LAN technologies are then presented together with their fe	eatures. Internet	protocols are
	rking approaches are presented.		_
	Functional Programming	Z,ZK	6
	idents into the techniques of functional programming, the advantages and disadvantages of this programming paradigm, and		
	that the programmer symbolically describes the problem to be solved, rather than specifying the exact sequence of operal	•	
e e	of the solved problem and implementing even more complex algorithms compactly. Functional programming has notable ad	e 1	
	algorithms, and the most useful functional programming concepts are increasingly often introduced to standard programming I on symbols, rather than numbers, functional programming has been heavily used in in artificial intelligence fields, such as ac		
	so part of the inter-university programme prg.ai Minor. It pools the best of AI education in Prague to provide students with a		
	ence. More information is available at https://prg.ai/minor.		
	ntroduction to Artificial Intelligence	Z.ZK	6
	o cover the basics of symbolic artificial intelligence. We will focus on algorithms of informed and uninformed state space se	,	-
	knowledge using formal logic, methods of automated reasoning, and an introduction to Markov decision making, and to two		
	ersity programme prg.ai Minor. It pools the best of AI education in Prague to provide students with a deeper and broader ins	. , .	
· ·	tion is available at https://prg.ai/minor.		
BE5B35LSP	Logic Systems and Processors	Z.ZK	6
	basic hardware structures of computing resources, their design, and architecture. It provides an overview of the possibiliti	,	-
	the design of embedded processor systems with peripherals on modern FPGA programmable logic circuits, which are increased		•
	in VHDL, from logic to more complex sequential circuits to practical finite state machine (FSM) designs. They will also mas		
using circuit simulation. P	ractical problems are solved using development boards used at hundreds of leading universities around the world. The cou	rse ends with RIS	SC-V processor
structure, cache, and pipe	eline processing.		
BE5B33RPZ F	Pattern Recognition and Machine Learning	Z,ZK	6
The basic formulations of	the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between obser	vations and class	es of objects is
	he raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost		
	s also part of the inter-university programme prg.ai Minor. It pools the best of AI education in Prague to provide students with	ith a deeper and	broader insight
into the field of artificial in	telligence. More information is available at https://prg.ai/minor.		
	Real-time Systems Programming	Z,ZK	6
5	to provide students with basic knowledge about software development for real-time systems, for example in control and em		
-	tems equipped with a real-time operating system (RTOS). Lectures will cover real-time systems theory, which can be used to		-
	t of lectures will introduce methods and techniques used for development of safety-critical systems, whose failure may have		•
e	first solve a few simple tasks to familiarize them with basic components of VxWorks RTOS and to benchmark the used OS In the typical criteria for assessing the suitability of a given platform for the given application. After the simple tasks, student	•	
	I application which will require full utilization of RTOS features. All the tasks at the labs will be implemented in C (or C++) la		IEX LOSK OF
		Z,ZK	6
	Creating graphic content for provide theory behind geometric modeling and modeling of materials, give students an overview of methods used in the		
	those methods in praxis. At the seminars, students will learn how to design and create three-dimensional scene, create and	-	-
	sky) and geometrical details, and position and set-up lights in the scene.		inating materials
(13)			
•	up: 2015_BOIBAP		
Name of the gro	oup: Bachelor Project		
Requirement cr	edits in the group: In this group you have to gain 20 credits		
Requirement co	ourses in the group: In this group you have to complete 1 course		
Credits in the gi	roup: 20		
Note on the gro	up:		
	Name of the course / Name of the group of courses		

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 mejla Roman mejla (Gar.)	Z	20	12S	L,Z	Р

Characteristics of the courses of this group of Study Plan: Code=2015_BOIBAP Name=Bachelor Project

BBAP20	Bachelor thesis	Z	20

Code of the group: 2015_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 Havlí ek, Vladimír K la Radek Havlí ek Vladimír K la (Gar.)	Z	0	2BP+2BC	Z,L	Р
BEZZ	Basic Health and Occupational Safety Regulations Ivana Nová, Radek Havlí ek, Vladimír K la Radek Havlí ek Vladimír K la (Gar.)	Z	0	2BP+2BC	z	Р

Characteristics of the courses of this group of Study Plan: Code=2015_BOIBBE Name=Safety of the bachelor's studies

 BEZB
 Safety in Electrical Engineering for a Bachelor's Degree
 Z
 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 of Safety Electrical Engineering. In this way the students receive qualification of instructed person that enables them to work on electrical equipment.

 BEZZ
 Basic Health and Occupational Safety Regulations
 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: 2015_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 Sláme ka Vladimír Sláme ka Vladimír Sláme ka (Gar.)	KZ	4	2P+2C	Z	Р
B0B16FIL	Philosophy Peter Zamarovský Peter Zamarovský Peter Zamarovský (Gar.)	ZK	2	2P+0S	Z,L	Р
B0B16FI1	Philosophy 1 Peter Zamarovský Peter Zamarovský Peter Zamarovský (Gar.)	KZ	4	2P+2S	Z	Р
B0B16HTE	History of technology and economic Marcela Efmertová, Jan Mikeš Marcela Efmertová Marcela Efmertová (Gar.)	ZK	2	2P+0S	Z,L	Р
B0B16HT1	History of science and technology 1 Marcela Efmertová, Jan Mikeš Marcela Efmertová Marcela Efmertová (Gar.)	KZ	4	2P+2S	Z	Р
B0B16HI1	History 1 Milena Josefovi ová Milena Josefovi ová Milena Josefovi ová (Gar.)	KZ	4	2P+2S	Z	Р
B0B16MPS	Psychology Jan Fiala Jan Fiala Jan Fiala (Gar.)	Z,ZK	4	2P+2S	Z,L	Р
B0B16MPL	Psychology for managers Jan Fiala Jan Fiala Jan Fiala (Gar.)	ZK	2	2P+0S	Z,L	Р
A003TV	Physical Education Ji í Drnek	Z	2	0+2	L,Z	Р

Characteristics of the courses of this group of Study Plan: Code=2015_BOIH Name=Humanities subjects

B0B16ET1	Ethic 1	KZ	4			
Aim of this subject is to	Aim of this subject is to provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various situations of human life. Esse					
parts of the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the communal answers.						
B0B16FIL	Philosophy	ZK	2			
We deal with the most i	mportant persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philo	sophy and conne	ction of old			
philosophical thoughts	with recent problems of science, technology, economics and politics.					
B0B16FI1	Philosophy 1	KZ	4			
We deal with the most i	mportant persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philo	sophy and conne	ction of old			
philosophical thoughts	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			
B0B16MPL	Psychology for managers	ZK	2			
A003TV	Physical Education	Z	2			

Code of the group: 2015_BOIP

Name of the group: Compulsory subjects of the programme

Requirement credits in the group: In this group you have to gain 102 credits

Requirement courses in the group: In this group you have to complete 17 courses Credits in the group: 102

	Name of the course / Name of the group of courses					
Code	(in case of groups of courses the list of codes of their members)	Completion	Credits	Scope	Semester	Role
	Tutors, authors and guarantors (gar.)					
34B33ALG	Algorithms Marko Genyk-Berezovskyj, Daniel Pr ša Daniel Pr ša Marko Genyk-Berezovskyj (Gar.)	Z,ZK	6	2P+2C	z	Ρ
B0B35APO	Computer Architectures Pavel Píša, Richard Šusta, Petr Št pán Pavel Píša Pavel Píša (Gar.)	Z,ZK	5	2P+2L	L	Р
B0B36DBS	Database Systems Martin imná, Václav Kratochvíl Martin imná Martin imná (Gar.)	Z,ZK	6	2P+2C+4E	L	Ρ
34B01DMA	Discrete Mathematics Petr Habala Petr Habala Petr Habala (Gar.)	Z,ZK	5	2P+2S	Z	Р
30B01LAG	Linear Algebra Ji í Velebil, Jakub Rondoš, Natalie Žukovec, Daniel Gromada, Josef Dvo ák, Mat j Dostál Ji í Velebil Ji í Velebil (Gar.)	Z,ZK	8	4P+2S	z	Ρ
B0B01LGR	Logic and Graphs Natalie Žukovec, Mat j Dostál, Alena Gollová Alena Gollová Marie Demlová (Gar.)	Z,ZK	5	3P+2S	Z,L	Ρ
B0B01MA1	Mathematical Analysis 1 Josef Dvo ák, Martin K epela, Josef Tkadlec, Veronika Sobotíková Josef Tkadlec Josef Tkadlec (Gar.)	Z,ZK	7	4P+2S	Z,L	Ρ
B0B01MA2	Mathematical Analysis 2 Miroslav Korbelá, Petr Hájek, Martin Bohata, Jaroslav Tišer, Karel Pospíšil, Paola Vivi, Hana Tur inová Petr Hájek Jaroslav Tišer (Gar.)	Z,ZK	7	4P+2S	L,Z	Ρ
B4B35OSY	Operating Systems Michal Sojka, Petr Št pán Michal Sojka Michal Sojka (Gar.)	Z,ZK	4	2P+2C	Z	Р
B0B33OPT	Optimization Tomáš Werner, Petr Olšák, Mirko Navara, Tomáš Kroupa Tomáš Werner Tomáš Werner (Gar.)	Z,ZK	7	4P+2C	Z,L	Ρ
34B36PDV	Parallel and Distributed Computing Mat j Kafka, Michal Jakob Michal Jakob Michal Jakob (Gar.)	Z,ZK	6	2P+2C	L	Ρ
34B38PSIA	Computer Networks Ji í Novák, Jan Holub Ji í Novák Ji í Novák (Gar.)	Z,ZK	5	2P+2L	L	Ρ
B0B01PST	Probability and Statistics Kate ina Helisová Kate ina Helisová Petr Hájek (Gar.)	Z,ZK	7	4P+2S	Z	Ρ
B0B36PRP	Procedural Programming Jan Faigl Jan Faigl (Gar.)	Z,ZK	6	2P+2C	Z	Р
B0B36PJV	Programming in Java Ji í Vok ínek, Martin Mudroch, Ladislav Serédi Ji í Vok ínek Ji í Vok ínek (Gar.)	Z,ZK	6	2P+3C+7E	L	Р
B4B33RPH	Solving Problems and other Games Petr Pošík, Tomáš Svoboda Petr Pošík Tomáš Svoboda (Gar.)	КZ	6	2P+3C	Z	Ρ
B4BPROJ6	Unassisted project Petr Pošík, Tomáš Svoboda, Ji í Šebek, Jaroslav Sloup, Ivan Jelínek, Katarína Žmolíková Petr Pošík	Z	6	0+2	Z,L	Ρ
	the courses of this group of Study Plan: Code=2015_BOIP Name	=Compulsory	v subject	s of the	programme	•
34B33ALG	Algorithms			2	Z,ZK	6
, 0	nms development is constructed with minimum dependency to programming language; ne					
	basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching	, sorting, special a	application a	Igorithms, [Dynamic progra	amming.
	gn and construct non-trivial algorithms and to evaluate their effectivity.				7 71/	-
	Computer Architectures				Z,ZK	5
	Database Systems	model and to use	the SOL In-		Z,ZK	6
-	is a basic database course mainly aimed at the student ability to design a relational data ose the appropriate degree of transaction isolation. Students will also get acquainted with					
	nagement. They will verify their knowledge during the elaboration of a continuously subm		-	Loning LECIII	inques, ualava	So Systell
I	Discrete Mathematics				Z,ZK	5
1	eet some important topics from the field of discrete mathematics. Namely, they will explore	divisibility and ca	lculations m			
elations, mappings, card	linality of sets, induction, and recurrence equations. The second aim of this course is to te em to mathematics as science.	-			-	
B0B01LAG	Linear Algebra	o covorod (lipport	lonondonce		Z,ZK	8 coordinat
etc). The calculus of matr	tial parts of linear algebra. Firstly, the basic notions of a linear space and linear mappings ar rices (determinants, inverse matrices, matrices of a linear map, eigenvalues and eigenvect equations, the geometry of a 3D space (including the scalar product and the vector product and the vector product and the vector	tors, diagonalisat				
	equations, the geometry of a 3D space (including the scalar product and the vector product logic and Graphs	ucij anu SVD.			Z,ZK	5
	Logic and Graphs s of mathematical logic and graph theory. Syntax and semantics of propositional and predica	te logic are introd	uced The in			
	etween a formula and its model is stressed. Further, basic notions from graph theory are i	-		יטיייטיייטיי		onsequel
	Mothematical Analysis 1				7 71/	7

Z,ZK

7

B0B01MA1

Mathematical Analysis 1

The aim of the course is to introduce students to basics of differential and integral calculus of functions of one variable.

30B01MA2	Mathematical Analysis 2	Z,ZK	7
The subject covers a	n introduction to the differential and integral calculus in several variables and basic relations between curve and surface integra	als. Other part cont	ains function
series and power ser	ies with application to Taylor and Fourier series.		
B4B35OSY	Operating Systems	Z,ZK	4
ecture introduces o	peration system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, d	rivers, file systems	, basic securit
spects. These topics	s are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS	S in C programmin	g language wi
e solved on labs. St	udents will work with Linux OS and micro-kernel NOVA.		
30B33OPT	Optimization	Z,ZK	7
he course provides	an introduction to mathematical optimization, specifically to optimization in real vector spaces of finite dimension. The theory is illu	strated with a num	ber of example
ou will refresh and e	xtend many topics that you know from linear algebra and calculus courses.		
34B36PDV	Parallel and Distributed Computing	Z,ZK	6
34B38PSIA	Computer Networks	Z,ZK	5
B0B01PST	Probability and Statistics	Z,ZK	7
		Z,ZK	6
0B36PRP	Procedural Programming		
he course accompa re developed. Stude rograms. At the sam s used that provides nd linking but also w	Procedural Programming nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data stru- nts master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for cr e time, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functional is is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of a	uctures and proces reating readable a efore, the C program d not only with prog ty and accuracy of	nd reusable mming langua ram compilati implementatio
The course accompa re developed. Stude programs. At the sam is used that provides and linking but also w Student independent mplementations. Even	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data stru- nts master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for ci- e time, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functional is is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of iluation of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks	uctures and proces reating readable a sfore, the C prograu I not only with prog ty and accuracy of a larger program u s.	nd reusable mming langua ram compilati implementatio sing existing
The course accompared eveloped. Stude programs. At the same s used that provides and linking but also w Student independence mplementations. Eve B0B36PJV	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structures master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for creating, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionalities is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks is a programming in Java	uctures and proces reating readable a sfore, the C program I not only with prog ty and accuracy of a larger program u s. Z,ZK	nd reusable nming langua ram compilati implementatio sing existing 6
The course accompain re developed. Stude programs. At the sam is used that provides and linking but also with tudent independent mplementations. Eve BOB36PJV The course builds on	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structures master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for creating, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionalities is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks is the basics of algorithms and programming from the first semester and introduces students to the Java environment. The course is the basics of algorithms and programming from the first semester and introduces students to the Java environment.	uctures and proces reating readable a efore, the C program d not only with prog ty and accuracy of a larger program u s. Z,ZK se also focus on the	nd reusable nming langua iram compilati implementations sing existing 6 e object conce
The course accompare developed. Stude rograms. At the same s used that provides and linking but also w student independence mplementations. Eva 30B36PJV The course builds on f the Java language	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structures master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for creating, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionalities is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks is a programming from the first semester and introduces students to the Java environment. The course The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working	uctures and proces reating readable a efore, the C program d not only with prog ty and accuracy of a larger program u s. Z,ZK a also focus on the g with files and using	nd reusable nming langua iram compilati implementation sing existing 6 e object concerning generic typ
The course accomparate developed. Stude orograms. At the same is used that provides and linking but also will Student independence mplementations. Eva 30B36PJV The course builds on of the Java language vill be introduced. Ar	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structures master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for creating, the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionalities is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks Programming in Java the basics of algorithms and programming from the first semester and introduces students to the Java environment. The course The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working important topic is models of multithreaded applications and their implementation. Practical exercises of practical skills and known.	uctures and proces reating readable a efore, the C program d not only with prog ty and accuracy of a larger program u s. Z,ZK as also focus on the g with files and usin wledge of Java is to	nd reusable mming langua ram compilati implementatio sing existing 6 e object conce ng generic typ ested in the fo
The course accompare developed. Stude rograms. At the same s used that provides and linking but also w student independence mplementations. Eva 30B36PJV The course builds on f the Java language vill be introduced. Ar f solving partial task	nies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structures master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for creating the effort is to build students an overview of the program operation, data model, memory access, and management. There a direct link between the program data structures and their representation in the computer memory. Students will get acquainted ith debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionalities is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the selected tasks is the basics of algorithms and programming from the first semester and introduces students to the Java environment. The course The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working important topic is models of multithreaded applications and their implementation. Practical exercises of practical skills and knows and semester work, which will be submitted continuously through the source code version control system. The semester work	uctures and proces reating readable a efore, the C program d not only with prog ty and accuracy of a larger program u s. Z,ZK as also focus on the g with files and usin wledge of Java is to	nd reusable mming langua ram compilati implementatio sing existing 6 e object conce ng generic typ ested in the fo
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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:

	Name of the course / Name of the group of courses	1		[
Code	(in case of groups of courses the list of codes of their members)	Completion	Credits	Scope	Semester	Role
	Tutors, authors and guarantors (gar.)					
B0B04B1K	English language B1 - classified assessment Markéta Havlí ková, Pavla Péterová, Erik Peter Stadnik, Michael Ynsua, Dana Saláková, Petra Juna Jennings Petra Juna Jennings Petra Juna Jennings (Gar.)	κz	0	0C	Z,L	Ρ
B0B04B2Z	English language B2 - exam Markéta Havlí ková, Michael Ynsua, Dana Saláková, Petra Juna Jennings 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=2015_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 Examir	nation Rules and				
Regulations for Students	s at CTU (Part III, Article 4), a compulsory subject is one whose completion is a necessary condition in order to successfully	complete the stud	y programme. In				
addition, this requires th	e passing of an examination evaluated on the scale A, B, C, D, or E (SERR Part III, Article 6). II) According to the Common E	uropean Framew	ork 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-Interm	nediate) level is				
one who can understand	I the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specia	lisation. Can intera	act with a degree				
of fluency and spontane	ity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detaile	ed text on a wide r	ange 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: Compulsory courses of the specialization Minimal number of credits of the block: 30 The role of the block: PO

Code of the group: 2015_BOIPO3 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

Ν	ote	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
B4B36FUP	Functional Programming Rostislav Hor ík, Tomáš Votroubek Rostislav Hor ík Michal P chou ek (Gar.)	Z,ZK	6	2P+2C	L	PO
B4B39IUR	User interfaces implementation Zden k Mikovec, Miroslav Macík Miroslav Macík Zden k Míkovec (Gar.)	Z,ZK	6	2P+2S	Z	PO
B4B01JAG	Languages, Automats and Gramatics Marie Demlová, Ji í Demel Marie Demlová Marie Demlová (Gar.)	Z,ZK	6	2P+2S	Z	PO
B4B36ONM	Object-oriented design and Modeling	Z,ZK	6	2P+2C	Z	PO
B4B36SIN	Software Engineering Ji í Šebek, Martin Komárek Martin Komárek (Gar.)	Z,ZK	6	3P+2S	Z	PO

Characteristics of the courses of this group of Study Plan: Code=2015_BOIPO3 Name=Compulsory subjects of the branch

B4B36FUP	Functional Programming	Z,ZK	6
This course introduces	students into the techniques of functional programming, the advantages and disadvantages of this programming paradigm, an	d its use in practic	e. This approach
is declarative in the set	nse that the programmer symbolically describes the problem to be solved, rather than specifying the exact sequence of opera	tions required to s	solve it. It allows
focusing on the essent	e of the solved problem and implementing even more complex algorithms compactly. Functional programming has notable a	lvantages for para	Illelization and
automated verification	of algorithms, and the most useful functional programming concepts are increasingly often introduced to standard programmin	g languages. Beca	ause of the focus
of functional programm	ing on symbols, rather than numbers, functional programming has been heavily used in in artificial intelligence fields, such as a	gent systems or sy	ymbolic machine
learning. 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	a deeper and broa	der insight into
the field of artificial inte	Iligence. More information is available at https://prg.ai/minor.		
B4B39IUR	User interfaces implementation	Z,ZK	6
Based on the user inte	face specification (created by design team), the student will be able to implement user interface and communicate efficiently	with other stakeho	Iders taking part
in the whole process o	design, testing, and implementation of the user interface.		
B4B01JAG	Languages, Automats and Gramatics	Z,ZK	6
Basic notions of the the	ory of finite automata and grammars: deterministic and non deterministic finite automata, languages accepted by finite automa	ta, regular express	sions. Grammars
and languages genera	ed by grammars with emphasis to context free grammars. A very brief introduction of Turing machines.		
B4B36ONM	Object-oriented design and Modeling	Z,ZK	6
B4B36SIN	Software Engineering	Z,ZK	6

Name of the block: Elective courses Minimal number of credits of the block: 0 The role of the block: V

Code of the group: 2015_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:

Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their Code Completion Credits Semester Scope Role members) Tutors, authors and guarantors (gar.) English Language A2-1 B0B04A21 Ζ Ζ 2s V Dana Saláková English Language A2-2 B0B04A22 Ζ L 0 2s v Dana Saláková English Language B1-1 B0B04B11 Ζ 0 2C Ζ V Petra Juna Jennings Petra Juna Jennings (Gar.) English Language B1-2 B0B04B12 Ζ 0 2C L v Petra Juna Jennings Petra Juna Jennings (Gar.) English Language B2-1 B0B04B21 Ζ 3 2C Ζ v Petra Juna Jennings Petra Juna Jennings (Gar.) English Language B2-2 7 B0B04B22 3 2C Z.L v Petra Juna Jennings Petra Juna Jennings (Gar.)

Characteristics of the courses of this group of Study Plan: Code=2015_BJKA Name=English language courses

B0B04A21	English Language A2-1	Z	
The course is open to	students 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	students who are beginners in their second foreign language. The course objective is to develop and sustain their basic know	edge of the Engli	sh language.
B0B04B11	English Language B1-1	Z	0
Course objective: Bro	adening 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: Bro	adening 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	3
This course is design	ed as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk	B2 - zkouška - B0	B04B2Z*). 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 mar	k), it also focuses	more on the
academic and techni	al vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an approximation of the statement of the	priate level of Eng	glish for Erasmus
/ International Study.			
B0B04B22	English Language B2-2	Z	3
This course is design	ed as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk l	32 - zkouška - B0/	B04B2Z *). 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 mar	k), it also focuses	more on the
academic and technic	al vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an approximation of the statement of the	priate level of Eng	glish for Erasmus

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	V
TV-V1	Physical education	Z	1	0+2	Z,L	V
TVV0	Physical education	Z	0	0+2	Z,L	V

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: 2015_BOIVOL Name of the group: Elective subjects Requirement credits in the group: Requirement courses in the group: Credits in the group: 0

List of courses of this pass:

Code	Name of the course	Completion	Credits
A003TV	Physical Education	Z	2
B0B01LAG	Linear Algebra	Z,ZK	8
	initial parts of linear algebra. Firstly, the basic notions of a linear space and linear mappings are covered (linear dependence and indep		
etc). The calculus of	matrices (determinants, inverse matrices, matrices of a linear map, eigenvalues and eigenvectors, diagonalisation, etc) is covered no solving systems of linear equations, the geometry of a 3D space (including the scalar product and the vector product) and SVI		ons include
B0B01LGR		Z,ZK	F
	Logic and Graphs		5
	and of the relationship between a formula and its model is stressed. Further, basic notions from graph theory are introduced.		onooquonoo
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.	·	I
B0B01MA2	Mathematical Analysis 2	Z,ZK	7
The subject covers a	an introduction to the differential and integral calculus in several variables and basic relations between curve and surface integrals. C	Other part contain	ns function
	series and power series with application to Taylor and Fourier series.		_
B0B01PST	Probability and Statistics	Z,ZK	7
B0B04A21	English Language A2-1	Z	
DOD04A00	The course is open to students who are beginners in their second language. Course objective: Achieving competence in basic English Language A2.2	giisn. Z	0
B0B04A22	to students who are beginners in their second foreign language. The course objective is to develop and sustain their basic knowledge		
B0B04B11	English Language B1-1		
	adening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary expa	_	
	English.	,	0
B0B04B12	English Language B1-2	Z	0
Course objective: Bro	adening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary expa	nsion; understan	ding spoken
	English.		1
B0B04B1K	English language B1 - classified assessment	KZ	0
	verifying of the student's skills of B1 level	7	
B0B04B21	English Language B2-1 ed as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 - z	Z kouška DODO4	3
	ed on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark), i		
academic and technic	al vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropriate / International Study.		for Erasmus
academic and technic B0B04B22			for Erasmus
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B0B16MPS	Psychology	Z,ZK	4
B0B33OPT	Optimization	Z,ZK	7
The course provide	s an introduction to mathematical optimization, specifically to optimization in real vector spaces of finite dimension. The theory is illustrated	ted with a number o	f examples.
	You will refresh and extend many topics that you know from linear algebra and calculus courses.		
B0B35APO	Computer Architectures	Z,ZK	5
B0B36DBS	Database Systems	Z,ZK	6
-	ned as a basic database course mainly aimed at the student ability to design a relational data model and to use the SQL language finance the appropriate degree of transportion inclusion. Students will also get acquisited with the most commonly used inclusion.		
uata querying and	to choose the appropriate degree of transaction isolation. Students will also get acquainted with the most commonly used indexing architecture and their management. They will verify their knowledge during the elaboration of a continuously submitted seminar	-	se system
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	ı ' I	-
of the Java languag	e. The topics of the course includes exceptions, event handling, and building a graphical interface. Basic library methods, working wit	h files and using ge	eneric types
	An important topic is models of multithreaded applications and their implementation. Practical exercises of practical skills and knowled	0	
of solving partial ta	sks and semester work, which will be submitted continuously through the source code version control system. The semester work so		oints for the
B0B36PRP	correctness and efficiency of the code, as well as points that take into account the quality of the source codes, their readability and Procedural Programming	Z,ZK	6
	panies basic programming emphasizing the data representation in computer memory. Furthermore, the concepts of linked data structu	I ' I	-
	tudents master the practical implementation of simple individual tasks. The course emphasizes acquiring programming habits for cre		-
programs. At the sa	me time, the effort is to build students an overview of the program operation, data model, memory access, and management. Therefore	, the C programmir	ng language
-	s a direct link between the program data structures and their representation in the computer memory. Students will get acquainted not		
e e	with debugging and profiling. Labs aim to acquire practical skills of implementing simple individual tasks, emphasizing functionality ar		
	lence is developed by a set of homework with the possibility of optional and bonus assignments. The final task is an integration of a la olementations. Evaluation of coding style motivated by writing legible, understandable, and maintainable codes is also a part of the s		g existing
B4B01DMA	Discrete Mathematics	Z,ZK	5
	nts meet some important topics from the field of discrete mathematics. Namely, they will explore divisibility and calculations modulo n,	I ' I	-
	igs, cardinality of sets, induction, and recurrence equations. The second aim of this course is to teach students the language of math		
	actively, and introduce them to mathematics as science.		
B4B01JAG	Languages, Automats and Gramatics	Z,ZK	6
Basic notions of the	theory of finite automata and grammars: deterministic and non deterministic finite automata, languages accepted by finite automata, r		. Grammars
	and languages generated by grammars with emphasis to context free grammars. A very brief introduction of Turing machine		
B4B33ALG	Algorithms Igorithms development is constructed with minimum dependency to programming language; nevertheless the lectures and seminars	Z,ZK	6 Basic data
	ctures, basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching, sorting, special application algorith		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Students are able to design and construct non-trivial algorithms and to evaluate their effectivity.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	J
B4B33RPH	Solving Problems and other Games	KZ	6
	ion is to let students to deal with real-world problems properly. When working on real problems the student shall learn how to decomp		
	how to test and validate individual steps and so on. Many problems will actually be beyond the first-year-student skills. And many pro		
	unsolved parts should motivate the students to study difficult theoretical subjects. They should generate the important questions. Idea be eager to study deeper about informatics. The course also explains the basis of the object oriented design, software testing, ways		-
	codes.	ior writing readable	
B4B35OSY	Operating Systems	Z.ZK	4
Lecture introduces	operation system's basic concepts and principles as processes, threads, communication and synchronization, virtual memory, drive	rs, file systems, ba	sic security
aspects. These top	ics are theoretically described and demonstrated on Linux and Windows OS with multi-core systems. Practical exercises from OS in	C programming la	nguage will
	be solved on labs. Students will work with Linux OS and micro-kernel NOVA.		
B4B36FUP	Functional Programming	Z,ZK	6
	ces students into the techniques of functional programming, the advantages and disadvantages of this programming paradigm, and its e sense that the programmer symbolically describes the problem to be solved, rather than specifying the exact sequence of operatior		
	sence of the solved problem and implementing even more complex algorithms compactly. Functional programming has notable adva		
-	ion of algorithms, and the most useful functional programming concepts are increasingly often introduced to standard programming la		
	mming on symbols, rather than numbers, functional programming has been heavily used in in artificial intelligence fields, such as agen		
learning. This cours	se 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 de	eeper and broader	insight into
	the field of artificial intelligence. More information is available at https://prg.ai/minor.	774	6
B4B36ONM	Object-oriented design and Modeling Parallel and Distributed Computing	Z,ZK	6
B4B36PDV	Parallel and Distributed Computing	Z,ZK	6
B4B36SIN	Software Engineering	Z,ZK	6
B4B38PSIA B4B39IUR	Computer Networks	Z,ZK Z,ZK	5 6
	User interfaces implementation nterface specification (created by design team), the student will be able to implement user interface and communicate efficiently with		
	in the whole process of design, testing, and implementation of the user interface.		, tarang part
B4BPROJ6	Unassisted project	Z	6
BBAP20	Bachelor thesis	Z	20
BE4B33SEA	Subject in english - abroad	Z,ZK	0
	The subject serves for validation of the duty to complete at least one compulsory course of the program in English.		
BE4B35PSR	Real-time Systems Programming	Z,ZK	6
-	purse is to provide students with basic knowledge about software development for real-time systems, for example in control and embed		
	ed systems equipped with a real-time operating system (RTOS). Lectures will cover real-time systems theory, which can be used to for		
	other set of lectures will introduce methods and techniques used for development of safety-critical systems, whose failure may have nts will first solve a few simple tasks to familiarize them with basic components of VxWorks RTOS and to benchmark the used OS an	-	
	s represent the typical criteria for assessing the suitability of a given platform for the given application. After the simple tasks, student	•	
time-cr	itical motion control application which will require full utilization of RTOS features. All the tasks at the labs will be implemented in C (or C++) language.	

BE4B36FUP	Functional Programming	Z,ZK	6
This course introduc	ces students into the techniques of functional programming, the advantages and disadvantages of this programming paradigm, and its	use in practice. Th	is approach
is declarative in the	e sense that the programmer symbolically describes the problem to be solved, rather than specifying the exact sequence of operations	s required to solve	e it. It allows
focusing on the ess	ssence of the solved problem and implementing even more complex algorithms compactly. Functional programming has notable advar	ntages for parallel	ization and
automated verification	ion of algorithms, and the most useful functional programming concepts are increasingly often introduced to standard programming lan	iguages. Because	of the focus
1 0	mming on symbols, rather than numbers, functional programming has been heavily used in in artificial intelligence fields, such as agent		
learning. This cours	se 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 de	eper and broader	insight into
	the field of artificial intelligence. More information is available at https://prg.ai/minor.		
BE4B36ZUI	Introduction to Artificial Intelligence	Z,ZK	6
The aim of the cour	rse is to cover the basics of symbolic artificial intelligence. We will focus on algorithms of informed and uninformed state space search	n, problem represe	entation and
	tation of knowledge using formal logic, methods of automated reasoning, and an introduction to Markov decision making, and to two-r		
also part of the in	nter-university programme prg.ai Minor. It pools the best of AI education in Prague to provide students with a deeper and broader insi	ght into the field c	of artificial
	intelligence. More information is available at https://prg.ai/minor.		_
BE4B38PSIA	Computer Networks	Z,ZK	5
-	d to principles and technologies of Computer Networks. Physical layer media, analog and digital modulations, network topologies, MAI		-
data communicati	tion models, coding and cryptography basics are introduced. Widely used LAN technologies are then presented together with their fea	tures. Internet pro	tocols are
r	explained and internetworking approaches are presented.		
BE4B39VGO	551	Z,ZK	6
	surse is to provide theory behind geometric modeling and modeling of materials, give students an overview of methods used in the pro-	-	
graphics and how to	o apply those methods in praxis. At the seminars, students will learn how to design and create three-dimensional scene, create and app	oly textures imitati	ng materials
r	(e.g., wall finishes, wood, sky) and geometrical details, and position and set-up lights in the scene.		
BE5B32PKS	Computer and Communication Networks	Z,ZK	6
The aim of the cour	rse is to familiarize students with current trends in the switched local networks and the key functions of routing protocols in IP network	s. The course is a	aimed rather
	primarily practically then theoretically.		1
BE5B33RPZ	Pattern Recognition and Machine Learning	Z,ZK	6
BE5B33RPZ The basic formulation	Pattern Recognition and Machine Learning	ions and classes o	of objects is
BE5B33RPZ The basic formulation	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S	ions and classes of upport Vector Ma	of objects is chines, and
BE5B33RPZ The basic formulation	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S 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	ions and classes of upport Vector Ma	of objects is chines, and
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S course is also part of the inter-university programme prg.ai Minor. It pools the best of Al education in Prague to provide students with into the field of artificial intelligence. More information is available at https://prg.ai/minor.	ions and classes of upport Vector Ma a deeper and broa	of objects is chines, and ader insight
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c BE5B35APO	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S course is also part of the inter-university programme prg.ai Minor. It pools the best of Al education in Prague to provide students with into the field of artificial intelligence. More information is available at https://prg.ai/minor. Computer Architectures	ions and classes of upport Vector Mar a deeper and broa Z,ZK	of objects is chines, and ader insight
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c BE5B35APO Subject provides	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S 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 into the field of artificial intelligence. More information is available at https://prg.ai/minor. Computer Architectures s overview of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge presented	ions and classes of upport Vector Ma a deeper and broa Z,ZK d in the previous lo	of objects is chines, and ader insight 6 ectures of
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c BE5B35APO Subject provides Structures of compu	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S 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 into the field of artificial intelligence. More information is available at https://prg.ai/minor. Computer Architectures s overview of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge presented outer systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsystem a	ions and classes of upport Vector Mar a deeper and bros Z,ZK d in the previous lo and basic overview	of objects is chines, and ader insight 6 ectures of v of network
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c BE5B35APO Subject provides Structures of compu- and buses topologi	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observati ng on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S 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 into the field of artificial intelligence. More information is available at https://prg.ai/minor. Computer Architectures s overview of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge presented puter systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsystem a pies. Emphasis is placed on clarification of interconnection of hardware components with software support, mainly lower levels of oper-	ions and classes of upport Vector Mar a deeper and broa Z,ZK d in the previous lo and basic overview ating systems, de	of objects is chines, and ader insight 6 ectures of v of network vice drivers
BE5B33RPZ The basic formulati acquired by learnin Neural Nets. This c BE5B35APO Subject provides Structures of compu- and buses topologi	Pattern Recognition and Machine Learning tions of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observation of the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, S course is also part of the inter-university programme prg.ai Minor. It pools the best of Al education in Prague to provide students with a into the field of artificial intelligence. More information is available at https://prg.ai/minor. Computer Architectures Computer systems. Explanation starts from hardware side where it extends knowledge presented outer systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsystem a gies. Emphasis is placed on clarification of interconnection of hardware components with software support, mainly lower levels of operate the chinques. General principles are more elaborated during presentation of examples of multiple standard CPU architectures. Exercise	ions and classes of upport Vector Mar a deeper and broa Z,ZK d in the previous le and basic overview ating systems, de es are more focus	of objects is chines, and ader insight 6 ectures of v of network vice drivers
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