Study plan

Name of study plan: Electrical Engineering, Power Engineering and Management - Electrical Engineering and Management

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: Electrical Engineering, Power Engineering and Management

Type of study: Bachelor full-time

Required credits: 178
Elective courses credits: 2
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: 2018_BEEMBAP Name of the group: Bachelor Project

Requirement credits in the group: In this group you have to gain 15 credits Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 15 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
BBAP15	Bachelor thesis	Z	15	15s	L,Z	Р

Characteristics of the courses of this group of Study Plan: Code=2018_BEEMBAP Name=Bachelor Project

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BBAP15	Bachelor thesis	Z	15

Code of the group: 2018 BEEMBBE

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=2018_BEEMBBE Name=Safety of the bachelor's studies

BEZB	Safety in Electrical Engineering for a Bachelor's Degree	_ Z	0
The purpose of the safe	ty course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from oper	ation of it. This intr	oductory course
contains fundamentals	of Safety Electrical Engineering. In this way the students receive qualification of instructed person that enables them to work	on electrical equip	oment.
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: 2018_BEEMP

Name of the group: Compulsory subjects of the programme

Requirement credits in the group: In this group you have to gain 118 credits

Requirement courses in the group: In this group you have to complete 24 courses

Credits in the group: 118

Note on the group:

Note on the gro	<u> </u>					
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
B0B01DRN	Differencial Equations and Numerical Analysis Petr Habala, Jakub Rondoš, Jakub Stan k, Daniel Gromada, Josef Dvo ák Petr Habala Petr Habala (Gar.)	Z,ZK	4	2P+2C	L	Р
B1B38EMA	Electrical Measurements Jakub Svatoš Jakub Svatoš (Gar.)	KZ	5	2P+2L	L	Р
B1B31EOS	Electric circuits Martin Pokorný, Michal Šimek Martin Pokorný Martin Pokorný (Gar.)	Z,ZK	6	3P+2S	Z	Р
B1B15EN11	Power Engineering 1 Ladislav Musil, Ivo Doležel	Z,ZK	5	3P+2S	L	Р
B1B15EN2	Power Engineering 2 Ivo Doležel, Zden k Müller	Z,ZK	5	2P+2L	Z	Р
B1B17EMP	Electromagnetic Field Vít zslav Pankrác Vít zslav Pankrác (Gar.)	Z,ZK	5	2P+2C	Z	Р
B1B34EPS	Elektronics for Heavy-current engeneering Vladimír Janí ek, Adam Bou a, Jan Novák, Tomáš Teplý, Tomáš Martan Vladimír Janí ek Vladimír Janí ek (Gar.)	KZ	4	2P+2L	Z	Р
B1B02FY1	Physics 1 Petr Koní ek Petr Koní ek Petr Koní ek (Gar.)	Z,ZK	8	4P+1L+2C	L	Р
B1B02FY2	Physics 2 Petr Koní ek, Marek Brothánek, Vojt ch Jandák Petr Koní ek Petr Koní ek (Gar.)	Z,ZK	7	3P+1L+2C	Z	Р
B0B01KANA	Complex Analysis Zden k Mihula, Hana Tur inová Zden k Mihula Zden k Mihula (Gar.)	Z,ZK	4	2P+2S	Z	Р
B0B01LAGA	Linear Algebra Jakub Rondoš, Daniel Gromada, Josef Dvo ák, Ji í Velebil, Martin Bohata, Alena Gollová, Natalie Žukovec, Mat j Dostál Ji í Velebil Ji í Velebil (Gar.)	Z,ZK	7	4P+2S	Z	Р
B0B01MA1A	Mathematical Analysis 1 Josef Dvo ák, Martin Bohata, Veronika Sobotíková, Karel Pospíšil Veronika Sobotíková Veronika Sobotíková (Gar.)	Z,ZK	6	4P+2S	Z	Р
B0B01MA2A	Mathematical Analysis 2 Veronika Sobotíková, Jaroslav Tišer, Martin K epela, Miroslav Korbelá Jaroslav Tišer Jaroslav Tišer (Gar.)	Z,ZK	6	4P+2S	L	Р
B1B13MVE1	Materials for Power Electrical Engineering Jan Zemen, Pavel Mach, Josef Sedlá ek, Karel Dušek, Ivana Beshajová Pelikánová Karel Dušek Pavel Mach (Gar.)	Z,ZK	4	2P+2L	Z	Р
B0B99PRPA	Procedural Programming Stanislav Vítek Stanislav Vítek (Gar.)	KZ	4	2P+2C	Z	Р
B1BPROJ4	Bachelor project Zden k Müller, Ivana Beshajová Pelikánová, Jan Mikeš, Jan Kyncl, Jan Bauer, Karel Künzel, Stanislav Bou ek, Ji í Vaší ek, Miroslav Vítek, Jan Bauer Jan Bauer (Gar.)	Z	4	4s	Z,L	Р
B1B13PPS	Industrial computer systems Karel Künzel Karel Künzel Karel Künzel (Gar.)	Z,ZK	4	2P+2L	L	Р
B1B13TEP	Electrical engineering technological processes Pavel Mach, Karel Dušek, Petr Veselý, Jan Kuba, Radek Procházka Karel Dušek Pavel Mach (Gar.)	Z,ZK	4	3P+2L	L	Р
B1B15VYA	Computational Applications Jan Kyncl Jan Kyncl (Gar.)	KZ	4	2P+2C	L	Р
B1B13VVZ1	Manufacturing of Power Devices Radek Procházka, Ji í Hájek, Petr Gric Ji í Hájek Ji í Hájek (Gar.)	Z,ZK	4	2P+2L	Z	Р
B1B14ZPO	Fundametals of Electric Drives Pavel Kobrle Pavel Kobrle	Z,ZK	5	2P+2L	Z	Р
B1B14ZSP	Electric Machines and Apparatuses Basics Pavel Kobrle, Pavel Mindl Pavel Kobrle Pavel Kobrle (Gar.)	Z,ZK	5	3P+2L	L	Р
B1B14ZEL1	Fundamentals of Electrotechnical Engineering Ivana Nová, Vít Hlinovský, Ji í Beranovský Ivana Nová	KZ	4	2P+2C	Z	Р
B1B14ZVE	Power Electronics Jan Bauer, Ji í Lettl Ji í Lettl (Gar.)	Z,ZK	4	2P+2L	Z	Р

Characteristics of the courses of this group of Study Plan: Code=2018_BEEMP Name=Compulsory subjects of the programme

B0B01DRN Differencial Equations and Numerical Analysis

Z,ZK

4

This course introduces students to the classical theory of ordinary differential equations (separable and linear ODEs) and also to bsics of numerical methods (errors in calculations and stability, numerical solutions of algebraic and differential equations and their systems). The course takes advantage of the synnergy between theoretical and practical point of view.

B1B38EMA	Electrical Measurements	KZ	5		
	o fundamentals of measurement and instrumentation. Based on the principle of the methods of electrical quantities measured				
· · · · · ·		meet application a	ind an accuracy		
B1B31EOS	Electric circuits	Z,ZK	6		
The subject describes fu	undamental methods of electrical circuit analysis. The aim is to unify different level of knowledge of students coming from sch	ools of different c	ategories and		
		so be used for crit	cal assessment		
		7 7K	5		
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	Power Engineering 2 17EMP Electromagnetic Field course gets its students acquinted with principles and applied electromagnetic field theory basics. 34EPS Elektronics for Heavy-current engeneering ledge of current basic passive and active electronic components. Structure, physical and circuit properties of components. Component behavior who arge analog, digital and optical signals. More complex circuit systems and communication technologies. Measuring the most important applications are second one is the Faculty of Electrical Engineering - Physics 1, is devoted to the introduction into two important areas of physics. The first he second one is the electric and magnetic field. Within the framework of the classical mechanics, the students study the particle kinematics; dynamics are particles and rigid bodies. The students should be able to solve basic problems dealing with the description of mechanical systems, which they component to the properties of components. Component behavior who are properties of components. Components behavior who are properties of components. C				
	T7EMP Electromagnetic Field Z,Z course gets its students acquinted with principles and applied electromagnetic field theory basics. 34EPS Elektronics for Heavy-current engeneering KZ ledge of current basic passive and active electronic components. Structure, physical and circuit properties of components. Component behavior when wo arge analog, digital and optical signals. More complex circuit systems and communication technologies. Measuring the most important applications of modern components.				
B1B34EPS		KZ	4		
Knowledge of current ba		l l	ith both small		
	and optical signals. More complex circuit systems and communication technologies. Measuring the most important application	ons of modern se	miconductor		
devices.					
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in this course in the stud	ly of electrical circuits, theory of electrotechnical materials or radioelectronics. Apart of this, the knowledge gained in this cour	rse is required for	the study of the		
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B0B01KANA	Complex Analysis	Z,ZK	4		
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or voolors, basse, seema	mated of voctors, story. The next part of the course is devoted to matrix theory (determinante, inverse matrix, matrices of infed				
eigenvectors). Application	ons include solving systems of linear equations, geometry in three-dimensional space (including dot and cross products), and		-		
eigenvectors). Application of a matrix.	ons include solving systems of linear equations, geometry in three-dimensional space (including dot and cross products), and		-		
	ons include solving systems of linear equations, geometry in three-dimensional space (including dot and cross products), and Mathematical Analysis 1		-		
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of a matrix. B0B01MA1A This is an introductory c B0B01MA2A	Mathematical Analysis 1 ourse to differential and integral calculus of functions of one real variable. Mathematical Analysis 2	z,zk	e decomposition 6		
of a matrix. B0B01MA1A This is an introductory of B0B01MA2A The subject covers an in	Mathematical Analysis 1 ourse to differential and integral calculus of functions of one real variable. Mathematical Analysis 2 itroduction to the differential and integral calculus in several variables and basic relations between curve and surface integral	z,zk	e decomposition 6		
of a matrix. B0B01MA1A This is an introductory of B0B01MA2A The subject covers an ir series and power series	Mathematical Analysis 1 ourse to differential and integral calculus of functions of one real variable. Mathematical Analysis 2 Introduction to the differential and integral calculus in several variables and basic relations between curve and surface integral with application to Taylor and Fourier series.	Z,ZK Z,ZK z,ZK s. Other part cont	6 6 ains function		
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The basic ocurse of physics at the Faculty of Electrical Engineering - Physics 1, is devoted to the introduction into two important areas on physics. The first one is a classical mechanics and the second not so the electric and reagnetic feld. Within the framework of the assistant and the particle kinematics, dynamics and rigid bookles. The students subject to the following the particles and rigid bookles. The students subject to the students are subject to the students and the students are subject to the students and the students are subject to the students and will allow their understand the prefused independence and subject to the students are subject to the students and will allow their understand the prefused independence and subject to the students are subject to the students are subject to the students and will allow their understand the prefused independence and subject to the students are subject to the students and will allow their understand the prefused independence and subject to the students are subject to the subject to the students are subject to the subject to the students are subject to					
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B1B14ZEL1 | Fundamentals of Electrotechnical Engineering

ΚZ

4

The course extends necessary knowledge of creating technical documentation, including oral and written presentation of technical information. The second half of the semester is focused on explaining and practicing the basic parts of electrical engineering, so that the students' initial knowledge is increased to the level needed in the following semesters.

B1B14ZVE | Power Electronics

Z,ZK

K 4

The course focuses on the basic types of power semiconductor converters, which are used to change the parameters of electricity. Students are introduced to the basic principles, properties and applications of power electronic converters, their advantages, disadvantages, and fuse sizing.

Code of the group: 2015_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 Havlí ková, Pavla Péterová, Erik Peter Stadnik, Michael Ynsua, Dana Saláková, Petra Juna Jennings Petra Juna Jennings (Gar.)	KZ	0	0C	Z,L	Р
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

	<u> </u>	3	
B0B04B1K	English language B1 - classified assessment	KZ	0
verifying of the studen	t's skills of B1 level		
B0B04B2Z	English language B2 - exam	7.7K	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 the department website: http://jazyky.fel.cvut.cz/

Name of the block: Povinné p edm ty zam ení

Minimal number of credits of the block: 36

The role of the block: PZ

Code of the group: 2018_BEEMPS2

Name of the group: Compulsory subjects of the branch

Requirement credits in the group: In this group you have to gain 36 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 36

Note on the group:

Specializace - elektrotechnika a management

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
B1B16MME	Macro and Microekonomics Miroslav Vítek, Josef ernohous, Helena Fialová, Lubomír Lízal, Jan Jandera, Blanka Ku erková Helena Fialová Lubomír Lízal (Gar.)	Z,ZK	5	2P+2S	Z	PZ
B1B01MEK	Mathematics for Economy Jakub Stan k, Miroslav Korbelá , Kate ina Helisová Kate ina Helisová (Gar.)	Z,ZK	5	3P+2S	L	PZ
B1B16PPP	Business Law Jaroslav Knápek, Michal Briaský, Pavel Koš ál, Martin Dobiáš Martin Dobiáš Jaroslav Knápek (Gar.)	Z,ZK	5	2P+2C	L	PZ
B1B16UEE1	Economy of Power Industry Ji í Vaší ek, Miroslav Vítek, Jaroslav Knápek Miroslav Vítek Jaroslav Knápek (Gar.)	Z,ZK	5	2P+2C	Z	PZ
B1B13VEZ	Manufacturing of Electronic Equipment David Bušek, Jan Urbánek David Bušek David Bušek (Gar.)	Z,ZK	6	2P+2L	L	PZ

B1B16ZFM1	Basics of Financial Management Josef ernohous, Blanka Ku erková, Old ich Starý Old ich Starý Old ich Starý (Gar.)	Z,ZK	5	2P+2C	L	PZ	
	Basics of Business Economics Josef ernohous, Blanka Ku erková, Old ich Starý Josef ernohous Old ich Starý (Gar.)	KZ	5	2P+2C	Z	PZ	

Characteristics of	of the courses of this group of Study Plan: Code=2018_BEEMPS2 Name=Compulsory subje	cts of the bra	ınch
B1B16MME	Macro and Microekonomics	Z,ZK	5
Basic economic terms	, market, law of demand, law of supply, market equilibrium, price regulation, price and income elasticities, consumer's behavior, price and income elasticities, consumer's behavior, price and income elasticities, consumer's behavior, price regulation, price regulation, price regulation, price and income elasticities, consumer's behavior, price regulation, price regulation and price r	producer's behavio	or, cost, revenue,
profit, market failure,	nonopoly, government macroeconomic policy, gross domestic product, multipliers, money, inflation, banking system, monetary	policy, labor mark	ket, business
cycle, fiscal policy, for	eign trade policy, comparative advantage, CR and EU, Euro.		
B1B01MEK	Mathematics for Economy	Z,ZK	5
The aim is to introduc	e the basic theory of probability and statistics, familiarise students with basic terms properties and methods used in working w	vith random proces	ses, especially
with Markov chains, a	nd show applications of these mathematical tools in economics and insurance.		
B1B16PPP	Business Law	Z,ZK	5
B1B16UEE1	Economy of Power Industry	Z,ZK	5
B1B13VEZ	Manufacturing of Electronic Equipment	Z,ZK	6
(obsolete text, curren	ly valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components	and equipment. P	rinted circuit
boards fabrication. So	ldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive	on electrostatic fi	eld. Certification,
accreditation, quality	control and quality assurance.		
B1B16ZFM1	Basics of Financial Management	Z,ZK	5
B1B16ZPU	Basics of Business Economics	KZ	5

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 9

The role of the block: PV

Code of the group: 2018_BEEMH

Name of the group: Humanities subjects

Requirement credits in the group: In this group you have to gain at least 4 credits (at most 28)

Requirement courses in the group: In this group you have to complete at least 1 course (at most 9)

Credits in the group: 4 Note on the group.

Note on the g	roup.					
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	PV
B0B16FIL	Philosophy Peter Zamarovský Peter Zamarovský (Gar.)	ZK	2	2P+0S	Z,L	PV
B0B16FI1	Philosophy 1 Peter Zamarovský Peter Zamarovský (Gar.)	KZ	4	2P+2S	Z	PV
B0B16HTE	History of technology and economic Jan Mikeš, Marcela Efmertová Marcela Efmertová (Gar.)	ZK	2	2P+0S	Z,L	PV
B0B16HT1	History of science and technology 1 Jan Mikeš, Marcela Efmertová Marcela Efmertová (Gar.)	KZ	4	2P+2S	Z	PV
B0B16HI1	History 1 Milena Josefovi ová Milena Josefovi ová (Gar.)	KZ	4	2P+2S	Z	PV
B0B16MPS	Psychology Jan Fiala Jan Fiala (Gar.)	Z,ZK	4	2P+2S	Z,L	PV
B0B16MPL	Psychology for managers Jan Fiala Jan Fiala (Gar.)	ZK	2	2P+0S	Z,L	PV
A003TV	Physical Education Ji i Drnek	Z	2	0+2	L,Z	PV

Characteristics of the courses of this group of Study Plan: Code=2018_BEEMH Name=Humanities subjects

B0B16ET1	Ethic 1	KZ	4			
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 hum	an life. Essential			
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 in	We deal with the most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy and connection of old					
philosophical thoughts v	with recent problems of science, technology, economics and politics.					
B0B16FI1	Philosophy 1	KZ	4			
We deal with the most in	mportant persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philo	sophy and connec	ction of old			
philosophical thoughts v	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: 2018_BEEMPV2

Name of the group: Compulsory subjects of the programm

Requirement credits in the group: In this group you have to gain 5 credits

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

Credits in the group: 5

Note on the group:

Specializace - Elektrotechnika a management

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
B1B16EOB	Lightning protection economy Jan Mikeš Jan Mikeš Jan Mikeš (Gar.)	Z,ZK	5	2P+2L	L	PV
B1B13SSE1	Solar Systems and Electrochemical Sources Pavel Hrzina, Vít zslav Benda Pavel Hrzina Vít zslav Benda (Gar.)	Z,ZK	5	2P+2L	L	PV

Characteristics of the courses of this group of Study Plan: Code=2018_BEEMPV2 Name=Compulsory subjects of the programm

B1B16EOB Lightning protection economy

The subject provides an introduction to lightning discharge physics and deals with protections against their effects. Students are familiarized with the design, testing, and implementation of protections. Risk management methods for lightning damage are discussed. The course includes an excursion to the production of lightning current arresters and a real study of the effects of lightning currents in the laboratory supported by numerical simulations.

B1B13SSE1 Solar Systems and Electrochemical Sources

Z,ZK

5

The course familiarizes students with the basic principles of electrochemical sources and photovoltaic cells and systems. At the beginning, the emphasis is on understanding the basic principle using the equivalent circuits and mathematical description. In the next section, the basic types of electrochemical sources and their technical parameters are explored separately. Similarly, students become familiar with the technology of photovoltaic cells and modules. Another chapter is devoted to the basic applications such as solar-thermal. At the end of the course, students become familiar with economical and technological implications of the combination of solar systems and electrochemical sources.

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:

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	V
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	V
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=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 s	tudents who are beginners in their second foreign language. The course objective is to develop and sustain their basic knowled	edge of the Engli	sh language.				
B0B04B11	English Language B1-1	Z	0				
Course objective: Broadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary expansion; understanding spoken							
English.	English.						

B0B04B12 | English Language B1-2 | Z | 0 |
Course objective: Broadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary expansion; understanding spoken English.

B0B04B21 | English Language B2-1 | 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

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	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

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: 2018_BEEMVOL 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
A003TV	Physical Education	Z	2
B0B01DRN	Differencial Equations and Numerical Analysis	Z,ZK	4
This course introdu	ces students to the classical theory of ordinary differential equations (separable and linear ODEs) and also to bsics of numerical meth	ods (errors in calc	ulations and
stability, numerica	I solutions of algebraic and differential equations and their systems). The course takes advantage of the synnergy between theoretic	al and practical po	int of view.
B0B01KANA	Complex Analysis	Z,ZK	4
The course is an	introduction to the fundamentals of complex analysis and its applications. The basic principles of Fourier, Laplace, and Z-transform	are explained, inclu	uding their
	applications, particularly to solving differential and difference equations.		T.
B0B01LAGA	Linear Algebra	Z,ZK	7
	ntroductory topics of linear algebra. It begins with fundamental concepts related to vector spaces and linear transform (such as linear d		
	coordinates of vectors, etc.). The next part of the course is devoted to matrix theory (determinants, inverse matrix, matrices of linear trications include solving systems of linear equations, geometry in three-dimensional space (including dot and cross products), and the of a matrix.		
B0B01MA1A	Mathematical Analysis 1 This is an introductory course to differential and integral calculus of functions of one real variable.	Z,ZK	6
B0B01MA2A	Mathematical Analysis 2	Z,ZK	6
	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.		
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 E	nglish.	·
B0B04A22	English Language A2-2	Z	0
The course is ope	en to students who are beginners in their second foreign language. The course objective is to develop and sustain their basic knowle	dge of the English	language.
B0B04B11	English Language B1-1	Z	0
Course objective: B	roadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary exp English.	oansion; understan	ding spoken
B0B04B12	English Language B1-2	Z	0
Course objective: B	roadening the basic knowledge of general English; mastering basic specialised language; focusing on text analysis and vocabulary exp English.	pansion; understan	ding spoken
B0B04B1K	English language B1 - classified assessment verifying of the student's skills of B1 level	KZ	0
B0B04B21	English Language B2-1	Z	3
This course is design	gned as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2-	zkouška - B0B04	B2Z*). While
	ised on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark)		
academic and tech	nical vocabulary and grammar expected of students at the university level. *NOTE:This exam is also used for determining an appropria / International Study.	ate level of English	for Erasmus
B0B04B22	English Language B2-2	Z	3
	gned as a full-year, two semester preparation course for the universitys compulsory B2-level English Examination (Anglický jazyk B2 -		
	used on helping students reach a level required to pass the B2-level English Examination (or improve their English for a higher mark)		
academic and tech	nical vocabulary and grammar expected of students at the university level. *NOTE: This exam is also used for determining an appropria	ate level of English	for Erasmus
D0D04D07	/ International Study.	7 71/	
B0B04B2Z	English language B2 - exam	Z,ZK	0
	xam is a compulsory subject for all Faculty of Electrical Engineering students at the Czech Technical University. According to the Students at CTU (Part III, Article 4), a compulsory subject is one whose completion is a necessary condition in order to successfully con	-	
	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 Euro	. , , ,	U
-	EFR), an international standard for describing language ability, the definition of an English language learner who has achieved the B2	-	
	stand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisar		-
of fluency and spor	staneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed to	ext on a wide range	e of subjects
and explain a view	vpoint on a topical issue giving the advantages and disadvantages of various options. III) Students who have successfully passed an	approved internat	ional exam
within the past five	years may present their certificate to the Department of Languages, Faculty of Electrical Engineering. Upon approval, students are the	n exempt from both	h the Written
	Test and the Oral Part. For a list of approved international exams go the department website: http://jazyky.fel.cvut.cz/		1
B0B16ET1	Ethic 1	KZ	4
	is to provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various situations in the students and orientation of the students are students.		
· · · · · · · · · · · · · · · · · · ·	the subject are discussions in which students can react to lectures but also to actual questions coming with news and look for the c		
B0B16FI1 We deal with the	Philosophy 1 e most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy.	KZ sophy and connect	4 ion of old
DOD46FII	philosophical thoughts with recent problems of science, technology, economics and politics.	71/	2
B0B16FIL We deal with the	Philosophy e most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philos philosophical thoughts with recent problems of science, technology, economics and politics.	ZK sophy and connect	2 ion of old
B0B16HI1		KZ	1
	History 1		4
B0B16HT1	History of science and technology 1	KZ	4
B0B16HTE	History of technology and economic	ZK	2
B0B16MPL	Psychology for managers	ZK	2
B0B16MPS	Psychology	Z,ZK	4

B0B99PRPA	Procedural Programming	KZ	4
B1B01MEK	Mathematics for Economy	Z,ZK	5
The aim is to intro	duce the basic theory of probability and statistics, familiarise students with basic terms properties and methods used in working with rawith Markov chains, and show applications of these mathematical tools in economics and insurance.	ndom processes	, especiall
B1B02FY1	Physics 1	Z,ZK	8
	of physics at the Faculty of Electrical Engineering - Physics 1, is devoted to the introduction into two important areas of physics. The first e is the electric and magnetic field. Within the framework of the classical mechanics, the students study the particle kinematics; dynamics		
tudies. The classi	and rigid bodies. The students should be able to solve basic problems dealing with the description of mechanical systems, which they cal mechanics is followed by the relativistic mechanics, electric and magnetic field - both stationary as well as non-stationary. The stude e study of electrical circuits, theory of electrotechnical materials or radioelectronics. Apart of this, the knowledge gained in this course is consecutive course Physics 2. Physics 2	nts can use the	facts gaine
The course Physic the theory of wav universal charac nuclear physics	Thysics 2 is closely linked with the course Physics 1. Within the framework of this course the students will first of all learn foundations of thermoves - will give to the students basic insight into the properties of waves and will help to the students to understand that the presented deter in spite of the waves character. Particular types of waves, such as acoustic or optical waves are the subjects of the following section will complete the student?s general education in physics. The knowledge gained in this course will help to the students in study of such imputer vision, measuring technique and will allow them to understand the principles of novel technologies and functioning of new electrons.	nodynamics. Fol scription of the v . Quantum mech modern areas a	lowing top vaves has anics and
B1B13MVE1	Materials for Power Electrical Engineering	Z,ZK	4
materials and se	al description of basic properties and basic types of materials for electrical engineering is carried out. Types of conductors, superconductive emiconductors, which are used in power electrical engineering, are presented. The stress is put on relationships between properties, ted in higher detail, with ceramics for electrical engineering, with properties of mica, glass and their applications, with environmental conductors, with environmental conductors, with environmental conductors, and their applications.	chnology and the	use. The
B1B13PPS	Industrial computer systems	Z,ZK	4
-	ised on basic knowledges about computer control systems used in electrotechnic engineering and energetics. Students works with hard software tools and application examples. There are presented elementary digital circuits, the representation of numbers and their proces		-
	ock of microprocessor and microcomputer. The single chip microcomputer, embedded application, industrial PC and design to industrial	•	•
B1B13SSE1	Solar Systems and Electrochemical Sources	Z,ZK	5
he course familia	rizes students with the basic principles of electrochemical sources and photovoltaic cells and systems. At the beginning, the emphasis is		ng the bas
	equivalent circuits and mathematical description. In the next section, the basic types of electrochemical sources and their technical parameters are section.	-	-
=	become familiar with the technology of photovoltaic cells and modules. Another chapter is devoted to the basic applications such as sol course, students become familiar with economical and technological implications of the combination of solar systems and electrochemic		e end of th
B1B13TEP	Electrical engineering technological processes	Z,ZK	4
_	sed in electronics, laser, and other beam technologies and IC packaging will be characterized. There will also be discussed fundamenta ocesses. The subject is also the basis for producing single-crystal Si. Technology using plasma technology, packaging, and basic assen presented.	_	
	· ·		
B1B13VEZ	Manufacturing of Electronic Equipment	Z,ZK	6
(obsolete text, cu	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronics.	l equipment. Prir	ted circuit
(obsolete text, cu	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic equipment. Protection of components and equipment sensitive on electronic equipment.	l equipment. Prir	ted circuit
(obsolete text, cooords fabrication.	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronics.	l equipment. Prir ectrostatic field. (Z,ZK	ted circuit Certificatio
(obsolete text, copoards fabrication. B1B13VVZ1 The topic of the superior transformers and	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronics. Manufacturing of Power Devices	I equipment. Printectrostatic field. Constant Cons	ted circuit Certificatio 4 s devoted vices and
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B1B13VVZ1 The topic of the su transformers an convert B1B14ZEL1 The course exter focused on exp	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic equipment. Protection of components and equipment sensitive on electrical machine, quality control and quality assurance. Manufacturing of Power Devices	Z,ZK t of the subject i miconductive de f manufacturing KZ ond half of the si the following se	ted circuit Certificatio 4 s devoted vices and 4 emester is mesters.
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B1B13VVZ1 The topic of the su transformers an convert B1B14ZEL1 The course exter focused on exp B1B14ZPO The course provice control, continuous	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic equipment. Protection of components and equipment sensitive on electrical machines, quality control and quality assurance. Manufacturing of Power Devices	Z,ZK t of the subject i miconductive de f manufacturing KZ ond half of the subject it the following se Z,ZK basic of electric s with DC and A	ted circuit Certificatio 4 s devoted vices and 4 emester is mesters. 5 drives logi C machine
B1B13VVZ1 The topic of the surprise transformers and converting the course extended and the course provide the course provide the course provided	urrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electrical machines and quality assurance. Manufacturing of Power Devices	I equipment. Printectrostatic field. Of Z,ZK It of the subject is miconductive defended from the subject is the following set Z,ZK basic of electric is with DC and A Z,ZK and properties of	ted circuit Certificatio 4 s devoted vices and 4 emester is mesters. 5 drives logi C machine 5 rotating ar
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B1B13VVZ1 The topic of the surface transformers and converting the course extending the course provident of the course provident of the course explain non-rotating election and so the course explain non-rotating election	Arrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electronic in ele	Z,ZK tof the subject i miconductive de of manufacturing KZ ond half of the so the following se Z,ZK basic of electric swith DC and A Z,ZK and properties of ral and switching Z,ZK	ted circuit Certificatio 4 s devoted vices and 4 emester is mesters. 5 drives logi C machine 5 rotating an problems 4
B1B13VVZ1 The topic of the su transformers an convert B1B14ZEL1 The course exter focused on exp B1B14ZPO The course provice to the course explair non-rotating elect The course focused on exp	Arrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electricity in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on electricity in electricity in electricity and quality assurance. Manufacturing of Power Devices	Z,ZK t of the subject i miconductive de f manufacturing KZ ond half of the se the following se Z,ZK basic of electric swith DC and A Z,ZK and properties of ral and switching Z,ZK ced to the basic	ted circuit Certificatio 4 s devoted vices and . 4 emester is mesters. 5 drives logi C machine 5 rotating ar g problems 4 principles,
(obsolete text, coords fabrication.) B1B13VVZ1 The topic of the surple transformers and converting the course extension of the surple transformers and converting the course expension of the course provides the course explainment of the course focus on troit and the course focus of the course focus on the course focus of the course focus on the course focus of the course focus of the course focus of the course focus on the course focus of the	Arrently valid is czech version) Mechanical and electrical design. The electric contact. Joining of conductors. Cooling of components and Soldering in electronics. Electromagnetic compatibility of electronic equipment. Protection of components and equipment sensitive on eleactreditation, quality control and quality assurance. Manufacturing of Power Devices	Z,ZK tof the subject i miconductive de of manufacturing KZ and half of the s the following se Z,ZK basic of electric is with DC and A Z,ZK and properties of ral and switching Z,ZK ced to the basic	ted circuit Certificatio 4 s devoted vices and . 4 emester is mesters. 5 drives logi C machine 5 rotating ar problems 4 principles,
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B1B17EMP	Electromagnetic Field	Z,ZK	5
	This course gets its students acquinted with principles and applied electromagnetic field theory basics.		'
B1B31EOS	Electric circuits	Z,ZK	6
The subject descr	ibes fundamental methods of electrical circuit analysis. The aim is to unify different level of knowledge of students coming from school	ols of different cat	egories and
form the basis of kn	owledge necessary for next subjects. It presents the difference among physical circuit and its models, and then it presents the behavior	of basic ideal cir	cuit elements
in DC circuits and ir	n sinusoidal steady state as well as transients, caused by changes in the circuit. Acquired knowledge should, among other things, also be	oe used for critica	l assessment
	of the results of the analysis and simulation of electrical circuits by means of software tools.		
B1B34EPS	Elektronics for Heavy-current engeneering	KZ	4
"	rent basic passive and active electronic components. Structure, physical and circuit properties of components. Component behavior	•	
and large analog,	digital and optical signals. More complex circuit systems and communication technologies. Measuring the most important application	ns of modern sen	niconductor
5.5555	devices.		
B1B38EMA	Electrical Measurements	KZ	5
· ·	sused to fundamentals of measurement and instrumentation. Based on the principle of the methods of electrical quantities measurement		
frequency, resistant	ce, capacitance and inductance) a structure and properties of measuring instruments are explained including principles of their corre	ct application and	an accuracy
	estimation. Fundamentals of magnetic measurements close the course.		
B1BPROJ4	Bachelor project	Z	4
BBAP15	Bachelor thesis	Z	15
BEZB	Safety in Electrical Engineering for a Bachelor's Degree	Z	0
	safety course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from operation		•
contains funda	amentals of Safety Electrical Engineering. In this way the students receive qualification of instructed person that enables them to work	on electrical equ	uipment.
BEZZ	Basic Health and Occupational Safety Regulations	Z	0
"	e worked out based on The Training Scheme for Health and Occupational Safety designed for employees and students of the Czech 🛚		
which was provide	d by the Rector's Office of the CTU. Safety is considered one of the basic duties of all employees and students. The knowledge of He	ealth and Occupa	tional Safety
	regulations forms an integral and permanent part of qualification requirements. This program is obligatory.		1
TV-V1	Physical education	Z	1
TVKLV	Physical Education Course	Z	0
TVKZV	Physical Education Course	Z	0
TVV	Physical education	Z	0
TVV0	Physical education	Z	0

For updated information see http://bilakniha.cvut.cz/en/f3.html Generated: day 2025-07-12, time 04:49.