Recomended pass through the study plan

Name of the pass: Branch Electrical Engineering and Management - Passage through study

Faculty/Institute/Others: Faculty of Electrical Engineering

Department:

Pass through the study plan: Electrical Engineering, Power Engineering and Management - Electrical

Engineering and Management

Branch of study guranteed by the department: Welcome page

Guarantor of the study branch:

Program of study: Electrical Engineering, Power Engineering and Management

Type of study: Bachelor full-time

Note on the pass:

Coding of roles of courses and groups of courses:

P - compulsory courses of the program, PO - compulsory courses of the branch, Z - compulsory courses, S - compulsory elective courses, PV - compulsory elective courses, F - elective specialized courses, V - elective courses, T - physical training courses

Coding of ways of completion of courses (KZ/Z/ZK) and coding of semesters (Z/L):

KZ - graded assesment, Z - assesment, ZK - examination, L - summer semester, Z - winter semester

Number of semester: 1

Code	Tutors, authors and guarantors (gar.)		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
B0B01LAG	Linear Algebra Daniel Gromada, Ji í Velebil, Jakub Rondoš, Natalie Žukovec, Mat j Dostál Ji í Velebil Ji í Velebil (Gar.)	Z,ZK	8	4P+2S	Z	Р
B0B16MME	Macro and Microekonomics	Z,ZK	4	2P+2S	Z	Р
B0B01MA1	Mathematical Analysis 1 Martin K epela, Josef Tkadlec, Josef Dvo ák, Veronika Sobotíková Josef Tkadlec Josef Tkadlec (Gar.)	Z,ZK	7	4P+2S	Z,L	Р
B0B99PRP	Procedural Programming	Z,ZK	6	2P+2C	Z	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
B1B14ZEL	Fundamentals of Electrotechnical Engineering	KZ	3	2P+2C	Z	Р
		Min. cours.				
2015_BEEMH	Humanitní p edm ty B0B16ET1,B0B16FlL, (see the list of groups below)	1 Max. cours.	Min/Max 4/28			Р
		9				

Number of semester: 2

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 Daniel Gromada, Jakub Rondoš, Josef Dvo ák, Petr Habala, Jakub Stan k Petr Habala Petr Habala (Gar.)	Z,ZK	4	2P+2C	L	Р
B1B31EOS	Electric circuits Martin Pokorný Martin Pokorný (Gar.)	Z,ZK	6	3P+2S	Z	Р
B1B02FY1	Physics 1 Petr Koní ek Petr Koní ek (Gar.)	Z,ZK	8	4P+1L+2C	L	Р
B0B01MA2	Mathematical Analysis 2 Martin Bohata, Miroslav Korbelá, Petr Hájek, Jaroslav Tišer, Karel Pospíšil, Paola Vivi, Hana Tur inová Martin Bohata Jaroslav Tišer (Gar.)	Z,ZK	7	4P+2S	L,Z	Р
B1B15VYA	Computational Applications Jan Kyncl Jan Kyncl (Gar.)	KZ	4	2P+2C	Ĺ	Р

Number of semester: 3

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
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
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
B0B01KAN	Complex Analysis Hana Tur inová, Zden k Mihula Zden k Mihula Zden k Mihula (Gar.)	Z,ZK	5	2P+2S	Z	Р
B1B13MVE	Materials for Power Electrical Engineering	Z,ZK	5	2P+2L	Z	Р
B1B14ZVE	Power Electronics Ji í Lettl. Jan Bauer Ji í Lettl Ji í Lettl (Gar.)	Z,ZK	4	2P+2L	Z	Р

Number of semester: 4

Code	Tutors, authors and guarantors (gar.)		Credits	Scope	Semester	Role
B1B38EMA	Electrical Measurements Jakub Svatoš Jakub Svatoš (Gar.)	KZ	5	2P+2L	L	Р
B1B15EN1	Power Engineering 1	Z,ZK	6	3P+2S	L	Р
B0B01STP	Statistics and Probability Miroslav Korbelá, Jakub Stan k, Kate ina Helisová, Bogdan Radovi Kate ina Helisová Kate ina Helisová (Gar.)	Z,ZK	5	2P+2S	L	Р
B1B13VST	Technology in Electrical Engineering	Z,ZK	5	3P+2L	L	Р
B1B14ZSP	Electric Machines and Apparatuses Basics Pavel Kobrle, Pavel Mindl Pavel Kobrle Pavel Kobrle (Gar.)	Z,ZK	5	3P+2L	L	Р
B0B16ZPU	Basics of Business Economics	KZ	4	2P+2S	L	РО

Number of semester: 5

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
B1B15EN2	Power Engineering 2 Ivo Doležel, Zden k Müller	Z,ZK	5	2P+2L	Z	Р
B1BPROJ4	Bachelor project Jan Mikeš, Jan Kyncl, Jan Bauer, Zden k Müller, Ivana Beshajová Pelikánová, Karel Künzel, Stanislav Bou ek, Ji í Vaší ek, Miroslav Vítek, Jan Bauer Jan Bauer (Gar.)	Z	4	4s	Z,L	Р
B1B13VVZ	Manufacturing of Power Devices	Z,ZK	5	2P+2L	Z	Р
B1B14ZPO	Fundametals of Electric Drives Pavel Kobrle Pavel Kobrle	Z,ZK	5	2P+2L	Z	Р
B1B16UEE	Economy of Power Industry	KZ	4	2P+2S	Z	PO
B1B16ZFM	Basics of Financial Management	Z,ZK	4	2P+2S	Z	РО
2015_BEEMVOL	Volitelné p edm ty	Min. cours.	Min/Max 0/999			V

Number of semester: 6

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
B1B13PPS	Industrial computer systems Karel Künzel, Michal Brejcha Michal Brejcha (Gar.)	Z,ZK	4	2P+2L	L	Р
B0B16PPP	Business Law	KZ	4	2P+2S	L	РО
2015_BEEMVOL	Volitelné p edm ty	Min. cours.	Min/Max 0/999			٧

List of groups of courses of this pass with the complete content of members of individual groups

Kód		Name of the group of group (for specification	f courses an on see here	d codes of members of this or below the list of courses)	Com	pletion	Credi	Scope	Semester	Role
2015_BE	ЕМН		lumanitní p	edm tv	Min.	cours. 1 . cours.	Min/M	ax		P
				9						
B0B16ET1	Ethic 1	•	B0B16FIL	Philosophy		B0B16FI	1	Philosophy 1		
B0B16HTE	History of t	technology and econom	chnology and econom B0B16HT1 History of science and technolog			B0B16HI1 History 1		History 1		
B0B16MPS	Psycholog	у	B0B16MPL Psychology for managers			A003TV		Physical Educ	ation	
2015_BEEMVOL						cours.	Min/M	ax		
		'	Volitelné p edm ty			0	0/999	9		V

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 introduc	es students to the classical theory of ordinary differential equations (separable and linear ODEs) and also to bsics of numerical methods	ods (errors in calc	ulations and
stability, numerical	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.
B0B01KAN	Complex Analysis	Z,ZK	5
The course is an	introduction to the fundamentals of complex analysis and its applications. The basic principles of Fourier, Laplace, and Z-transform a	are explained, inclu	iding their
	applications, particularly to solving differential and difference equations.		
B0B01LAG	Linear Algebra	Z,ZK	8
The course covers the	ne initial parts of linear algebra. Firstly, the basic notions of a linear space and linear mappings are covered (linear dependence and ind	ependence, basis,	coordinates
etc). The calculus of	f matrices (determinants, inverse matrices, matrices of a linear map, eigenvalues and eigenvectors, diagonalisation, etc) is covered	next. The applicati	ons include
	solving systems of linear equations, the geometry of a 3D space (including the scalar product and the vector product) and S'	VD.	
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.	'	,
B0B01MA2	Mathematical Analysis 2	Z,ZK	7
The subject covers	s an introduction to the differential and integral calculus in several variables and basic relations between curve and surface integrals	Other part contain	ns function
	series and power series with application to Taylor and Fourier series.		
B0B01STP	Statistics and Probability	Z,ZK	5
	ourse is to introduce students to the fundamentals of probability theory and mathematical statistics, their computational methods as		s of these
	mathematical tools to practical examples.		
B0B16ET1	Ethic 1	KZ	4
Aim of this subject is	s to provide the students an orientation not only in general problems of ethics but above all to offer instructions for solving various situ	ı uations of human li	fe. 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 c	ommunal answers.	
B0B16FI1	Philosophy 1	KZ	4
We deal with the	most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy.	ophy and connect	ion of old
	philosophical thoughts with recent problems of science, technology, economics and politics.		
B0B16FIL	Philosophy	ZK	2
We deal with the	most important persons, schools and ideas of ancient philosophy. We are concerned especially on transdisciplinary nature of philosophy.	ophy and connect	ion of old
	philosophical thoughts with recent problems of science, technology, economics and politics.		
B0B16HI1	History 1	KZ	4
B0B16HT1	History of science and technology 1	KZ	4
B0B16HTE	History of technology and economic	ZK	2
B0B16MME	Macro and Microekonomics	Z,ZK	4
	ns, market, law of demand, law of supply, market equilibrium, price regulation, price and income elasticities, consumer's behavior, proc	· '	ost, revenue,
profit, market failu	re, monopoly, government macroeconomic policy, gross domestic product, multipliers, money, inflation, banking system, monetary p	olicy, labor market	, business
	cycle, fiscal policy, foreign trade policy, comparative advantage, CR and EU, Euro.	•	
	Psychology for managers	ZK	2
B0B16MPL			
B0B16MPL B0B16MPS	· · · · · · · · · · · · · · · · · · ·	Z,ZK	4
	Psychology Business Law	Z,ZK KZ	4
B0B16MPS	Psychology		

B1B02FY1 Physics 1 Z,ZK 8 The basic course of physics at the Faculty of Electrical Engineering - Physics 1, is devoted to the introduction into two important areas of physics. The first one is a classical mechanics and the second one is the electric and magnetic field. Within the framework of the classical mechanics, the students study the particle kinematics; dynamics of the mass particle, system of mass particles and rigid bodies. The students should be able to solve basic problems dealing with the description of mechanical systems, which they can meet during their further studies. The classical mechanics is followed by the relativistic mechanics, electric and magnetic field - both stationary as well as non-stationary. The students can use the facts gained in this course in the study of electrical circuits, theory of electrotechnical materials or radioelectronics. Apart of this, the knowledge gained in this course is required for the study of the consecutive course Physics 2. Physics 2 The course Physics 2 is closely linked with the course Physics 1. Within the framework of this course the students will first of all learn foundations of thermodynamics. Following topic the theory of waves - will give to the students basic insight into the properties of waves and will help to the students to understand that the presented description of the waves has a universal character in spite of the waves character. Particular types of waves, such as acoustic or optical waves are the subjects of the following section. Quantum mechanics and nuclear physics will complete the student?s general education in physics. The knowledge gained in this course will help to the students in study of such modern areas as robotics, computer vision, measuring technique and will allow them to understand the principles of novel technologies and functioning of new electronic devices B1B13MVE Materials for Power Electrical Engineering 5 At first a physical description of basic properties and basic types of materials for electrical engineering is carried out. Types of conductors, superconductors, insulators, magnetic materials and semiconductors, which are used in power electrical engineering, are presented. The stress is put on relationships between properties, technology and the use. The student will meet, in higher detail, with ceramics for electrical engineering, with properties of mica, glass and their applications, with environmental conductive joining, with materials for thin and thick films and with selected nanomaterials and their applications. B1B13PPS Industrial computer systems The subject is focused on basic knowledges about computer control systems used in electrotechnic engineering and energetics. Students works with hardware for data acquisition and data processing, software tools and application examples. There are presented elementary digital circuits, the representation of numbers and their processing in microcomputer and fundamental block of microprocessor and microcomputer. The single chip microcomputer, embedded application, industrial PC and design to industrial condition are presented. Technology in Electrical Engineering Production systems in electrical engineering will be characterized, their arrangement and basic technologies for mechanical joints and plastic parts. Manufacturing of windings, drying and impregnation processes will also been presented. Next part of a course will be focused on basic technologies for semiconductors including power integration. Beam technologies, technologies using plasma, packaging and basic assembly technologies will also been presented. B1B13VVZ Manufacturing of Power Devices Z.ZK The topic of the subject is focused on manufacturing of power electrical machines and devices from construction and technological point of wiev. Main part of the subject is devoted to transformers and rotating machines, namely their magnetic circuits and windings. Second half of the subject is dedicated to manufacturing of power semiconductive devices and converters including diagnostics, reliable operation. Last part of lectures deals with layouts of manufactirung, lean management and planning of manufacturing B1B14ZEL Fundamentals of Electrotechnical Engineering 3 The course extends necessary knowledge of the technical documentation, technical text and its presentation. The second half of the semester isfocused on an explanation and practicing of basics electrotechnics so that knowledge of students are increased to the level needed in the next semesters. B1B14ZPO Fundametals of Electric Drives The course provides the basic terms and knowledge in electric drives and in the issues related to this discipline as well. The lectures are focused on the basic of electric drives logic control, continuous control and also discrete control, and on the characteristics of used controllers in practice. Further, the basic control structures of drives with DC and AC machines are explained. B1B14ZSP Electric Machines and Apparatuses Basics The course explains the principles of machines for convertsion of mechanical energy to electrical and back. It discusses the principles of basic functions and properties of rotating and non-rotating electric machines. Following the behavior of electrical machines are discussed basic devices for protection and switching, including behavioral and switching problems. B1B14ZVE Power Electronics Z,ZK 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. B1B15EN1 Power Engineering 1 Z,ZK 6 Z,ZK B1B15EN2 Power Engineering 2 5 B1B15VYA Computational Applications ΚZ 4 B1B16UEE **Economy of Power Industry** ΚZ 4 B1B16ZFM Basics of Financial Management Z,ZK 4 B1B17EMP 5 Electromagnetic Field Z,ZK This course gets its students acquinted with principles and applied electromagnetic field theory basics. B1B31EOS Electric circuits The subject describes fundamental methods of electrical circuit analysis. The aim is to unify different level of knowledge of students coming from schools of different categories and form the basis of knowledge necessary for next subjects. It presents the difference among physical circuit and its models, and then it presents the behavior of basic ideal circuit elements in DC circuits and in sinusoidal steady state as well as transients, caused by changes in the circuit. Acquired knowledge should, among other things, also be used for critical assessment of the results of the analysis and simulation of electrical circuits by means of software tools. B1B34EPS ΚZ Elektronics for Heavy-current engeneering Knowledge of current basic passive and active electronic components. Structure, physical and circuit properties of components. Component behavior when working with both small and large analog, digital and optical signals. More complex circuit systems and communication technologies. Measuring the most important applications of modern semiconductor devices. B1B38EMA **Electrical Measurements** ΚZ 5 The subject is focused to fundamentals of measurement and instrumentation. Based on the principle of the methods of electrical quantities measurement (voltage, current, power, frequency, resistance, capacitance and inductance) a structure and properties of measuring instruments are explained including principles of their correct application and an accuracy estimation. Fundamentals of magnetic measurements close the course. B1BPROJ4 Bachelor project 7 4 BBAP15 Ζ Bachelor thesis 15 Ζ BF7B Safety in Electrical Engineering for a Bachelor's Degree 0 The purpose of the safety course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from operation of it. This introductory course contains fundamentals 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.

For updated information see http://bilakniha.cvut.cz/en/f3.html Generated: day 2025-11-20, time 15:24.