Study plan

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

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: Follow-up master full-time

Required credits: 116
Elective courses credits: 4
Sum of credits in the plan: 120

Note on the plan:

Name of the block: Compulsory courses in the program

Minimal number of credits of the block: 56

The role of the block: P

Code of the group: 2018_MEEMEP

Name of the group: Compulsory subjects of the programme

Requirement credits in the group: In this group you have to gain 31 credits

Requirement courses in the group: In this group you have to complete 6 courses

Credits in the group: 31 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
BE1M16EKE1	Economy of Power Industry Tomáš Králík, Július Bemš Tomáš Králík Tomáš Králík (Gar.)	Z,ZK	5	2P+2S	L	Р
BE1M15PPE1	Elements and Operation of Electrical Power Systems Ghaeth Fandi, Zden k Müller Zden k Müller (Gar.)	Z,ZK	5	2P+2S	Z	Р
BE1M15IAP	Engineering Applications Jan Kyncl, Ladislav Musil	Z,ZK	5	2P+2C	Z	Р
BE1MPROJ	Individual project Ji í Vaší ek, Zden k Müller, Jan Kyncl, Jan Jandera, Josef ernohous Josef ernohous Jan Jandera (Gar.)	Z	5	0p+4s	Z	Р
BE1M14SSE	Machinery and Structures of Power Plants Evžen Thöndel Evžen Thöndel	Z,ZK	5	2P+2C	Z	Р
BE1M13JAS1	Quality and Reliability Pavel Mach, Martin Molhanec Pavel Mach Pavel Mach (Gar.)	Z,ZK	6	2P+2C	Z,L	Р

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

5	Z,ZK	E1M16EKE1 Economy of Power Industry
ribution.	s production and	undamentals of financing of power companies. Cost structure of power generation and distribution. Prices and tariff systems for power, heat and c
in CR.	olicy and energy la	xamples of economic evaluation and investment appraisal of the typical project in power sector. Renewable energy sources, externalities. Energy
		beralization and power market development.
5	Z,ZK	E1M15PPE1 Elements and Operation of Electrical Power Systems
s, transient	ements, steady st	he course introduces basic technical principles of electricity transmission and distribution. There are explained parameters of power systems key
	zation.	nd failure phenomena, main principles of dimensioning and protecting, power quality and its control and electrical machines characteristics and u
5	Z,ZK	E1M15IAP Engineering Applications
	าร	he aim of the course is to get an overview of solving basic mathematical problems occurring in engineering practice using computer algebra systems.
5	z Z	he aim of the course is to get an overview of solving basic mathematical problems occurring in engineering practice using computer algebra system. E1MPROJ Individual project
•	Z	
•	Z	E1MPROJ Individual project
•	Z	E1MPROJ Individual project dependent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defe
work of a	Z ded within the fran	E1MPROJ Individual project dependent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defeablect.
work of a	Z ded within the fran	E1MPROJ Individual project dependent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defeatbject. E1M14SSE Machinery and Structures of Power Plants
work of a 5 aracteristics	Z ded within the fran Z,ZK re, properties and Z,ZK	E1MPROJ Individual project dependent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defeated. E1M14SSE Machinery and Structures of Power Plants he aim of the course is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structures.
work of a 5 aracteristics 6 ality. Basic	Z ded within the fran Z,ZK Ire, properties and Z,ZK ability as a part of	E1MPROJ Individual project dependent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defeated by branch department. The pro
in	Z,ZK ements, steady statements, steady statements.	examples of economic evaluation and investment appraisal of the typical project in power sector. Renewable energy sources, externalities. Energy beralization and power market development. E1M15PPE1 Elements and Operation of Electrical Power Systems The course introduces basic technical principles of electricity transmission and distribution. There are explained parameters of power systems key and failure phenomena, main principles of dimensioning and protecting, power quality and its control and electrical machines characteristics and under the control and electrical machines characteristics.

control, managerial tools for quality control. Techniques FMEA and QFFD, house of quality. Capability of a process. Taguchi loss function. Audits. Statistical inspection.

Code of the group: 2018_MEEMEDIP Name of the group: Diploma Thesis

Requirement credits in the group: In this group you have to gain 25 credits

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

Credits in the group: 25 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 members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
BDIP25	Diploma Thesis	Z	25	22s	L	Р

Characteristics of the courses of this group of Study Plan: Code=2018_MEEMEDIP Name=Diploma Thesis

Diploma Thesis

Independent final comprehensive work for the Master's degree study programme. A student will choose a topic from a range of topics related to his or her branch of study, which will be specified by branch department or branch departments. The diploma thesis will be defended in front of the board of examiners for the comprehensive final examination.

Name of the block: Povinné p edm ty zam

Minimal number of credits of the block: 45

The role of the block: PZ

Code of the group: 2018_MEEMEPS

Name of the group: Compulsory subjects of the specialization

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 6 courses

Credits in the group: 30 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
BE1M13EKP	Ecology and Materials Pavel Žák, Zuzana Šaršounová, Jan Weinzettel, Eva Horynová, Branislav Dzur ák, Michael Fridrich Jan Weinzettel Ivan Kudlá ek (Gar.)	Z,ZK	5	2P+2L	Z	PZ
BE1M14ESP	Electric Machinery and Apparatus Pavel Mindl, Miroslav Chomát Miroslav Chomát Pavel Mindl (Gar.)	Z,ZK	5	2P+2L	Z	PZ
BE1M15TVN	High Voltage Engineering Jan Hlavá ek	Z,ZK	5	2P+2L	L	PZ
BE1M13ASS	Solar Systems Application Rupendra Kumar Sharma, Jakub Holovský, Vít zslav Benda, Arao Minamau Pambo Jakub Holovský Vít zslav Benda (Gar.)	Z,ZK	5	2P+2L	Z	PZ
BE1M14TVM	Theory and Application of Power Converters Ji í Lettl Ji í Lettl (Gar.)	Z,ZK	5	2P+2L	L	PZ
BE1M15PRE1	Transmission and Distribution of Electricity Ghaeth Fandi, Zden k Müller Zden k Müller Zden k Müller (Gar.)	Z,ZK	5	2P+2S	Z	PZ

Characteristics of the courses of this group of Study Plan: Code=2018_MEEMEPS Name=Compulsory subjects of the specialization

BE1M13EKP	Ecology and Materials			Z,ZK	5

Electrical Technology from the perspective of ecology. Environmental assessment of the various types of surface protection. Environmental aspects of protective systems used in electronics. Environmental impacts of electrical production. Ekodesign proposal of the electrical product. Principles of the proposal product for a difficult operating environment. Disposal of electrical waste.

Electric Machinery and Apparatus

The course is focused on contact and solid-state switching devices in LV networks. Basic topologies AC switches and stress of their components, systems with modern semiconductor devices and their protection circuits, testing electrical devices. The course also deals with the general theory of electrical machines. Magnetic field. Fundamentals of commutation. The transformer efficiency, voltage drop. Transients - switch to the network, a short circuit. Mathematical model of synchronous and asynchronous machines. A rotating magnetic field. Induction machine, starting and speed control. Influence of harmonic magnetic field. Single-phase induction motor. Work synchronous machine on a network. Torque, stability, overload capacity.

BE1M15TVN High Voltage Engineering

Z,ZK The course contains the fundamental theories of high voltage engineering with respect to application in electrical power engineering. The knowledge of high voltage generators, measurement technique of high voltages and currents, properties of insulation systems, diagnostics methods and electrical discharges and their elimination. The practical laboratory exercises in high voltage laboratory are included.

BE1M13ASS Solar Systems Application

Solar energy, Photovoltaic phenomena, Photovoltaic cells and modules and their characteristics, Photovoltaic systems and their applications, Photo-thermal phenomena, Photo-thermal power stations. Significance, economic and environmental aspects of solar energy exploitation.

Z.ZK

5

Theory and Application of Power Converters

The course focuses on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converters. It also summarizes the basics of modulation and control strategies of power semiconductor converters and modern trends in their application in electric drives and other applications.

Transmission and Distribution of Electricity

The course introduces particular topics concerning transmission and distribution systems, mainly load flow solutions, specific aspects of system steady states and possibilities to control these states. The course also deals with synchronous generators characteristics in different operational states.

Code of the group: 2018_MEEMEPPS2

Name of the group: Compulsory subjects of the specialization

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 3 courses

Credits in the group: 15

Note on the group:

Specializace Elektroenergetika

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
BE1M15DEE	Distribution of Electrical Energy Ghaeth Fandi, Zden k Müller	Z,ZK	5	2P+2S	Z	PZ
BE1M15ETT	Electrical Heat Jan Kyncl Jan Kyncl (Gar.)	Z,ZK	5	2P+2S	Z	PZ
BE1M15ENY	Power Plants Zden k Müller, Jan Špetlík Zden k Müller (Gar.)	Z,ZK	5	2P+2S	L	PZ

Characteristics of the courses of this group of Study Plan: Code=2018_MEEMEPPS2 Name=Compulsory subjects of the specialization

Z,ZKBE1M15DEE Distribution of Electrical Energy The course introduces students into power quality principles, transmission and distribution system equipment and protection. The course covers also Smart grid principles and devices including measurement and telecommunication systems.

BE1M15ETT Z,ZK Electrical Heat 5

The aim is to gain knowledge of heat transfer, physical similarity theory, mathematical models frequently used components of energy systems (heat exchangers, heat pumps, thermal storage tanks, air treatment equipment). Are discussed mathematical models of induction and arc of electro-thermal equipment.

BE1M15ENY **Power Plants**

The course introduces power plants electric circuit topologies and self-consumption equipment characteristics. There are explained steam and nuclear power plants design, dynamics and characteristics. Separate part is concentrated on hydro power plants principles and characteristics.

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 15

The role of the block: PV

Code of the group: 2018_MEEMEPV1

Name of the group: Compulsory elective subjects of the specialization

Requirement credits in the group: In this group you have to gain at least 10 credits (at most 20)

Requirement courses in the group: In this group you have to complete at least 2 courses (at most 4)

Credits in the group: 10

Note on the group.

Note on the give	· ·					
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
BE1M16EUE1	Economy of Energy Use Ji í Beranovský, Michaela Valentová Michaela Valentová Ji í Beranovský (Gar.)	Z,ZK	5	2P+2S	L	PV
BE1M15ELS	Electrical Light Marek Bálský	Z,ZK	5	2P+2L	L	PV
BE1M14MDS1	Modeling of Dynamical Systems	Z,ZK	5	2P+2C	L	PV
BE1M13VSE	Power components in electrical engineering Ji í Hájek Ji í Hájek Ji í Hájek (Gar.)	Z,ZK	5	2P+2L	L	PV

Characteristics of the courses of this group of Study Plan: Code=2018_MEEMEPV1 Name=Compulsory elective subjects of the specialization

BE1M16EUE1	Economy of Energy Use	Z,ZK	5
Organization and energ	zation of aggregat	e, secondary	
energy sources. Energy	y audit and feasibility study, optimization of energy management of energy systems. Prices and tariffs, economy and financial	analysis.	

BE1M15ELS Z.ZK Electrical Light

The aim of the course is to make students acquainted with most frequent applications of optical radiation and with theoretical and practical principles of resolving lighting systems for indoor and outdoor areas, respecting necessary visual performance with emphasis on energy efficiency solutions and aspects of health and safety.

BF1M14MDS1 Modeling of Dynamical Systems Z,ZK 5 The course deals with combining knowledge of the dynamics of rigid bodies, fluid mechanics, aerodynamics, gas dynamics and thermodynamics in the compilation of nonlinear models BE1M13VSE Power components in electrical engineering

Power semiconductor device (diodes, BJTs, thyristors, MOSFETs and IGBTs) and integraed structures (modules). Structures, function, characteristics and parameters, Passive components of power electronic. Connection of devices in parallel and in series.

Code of the group: 2018_MEEMEH Name of the group: Humanities subjects

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:

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
BE0M16HSD1	History of economy and social studies	Z,ZK	5	2P+2S	Z,L	PV
BE0M16HVT	History of science and technology 2	Z,ZK	5	2P+2S	Z,L	PV
BE0M16FIL	Philosophy 2 Peter Zamarovský Peter Zamarovský (Gar.)	Z,ZK	5	2P+2S	Z,L	PV
BE0M16PSM	Psychology	Z,ZK	5	2P+2S	Z,L	PV
BE0M16TEO	Theology	Z,ZK	4	2P+2S	L	PV

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

BE0M16HSD1	History of economy and social studies	Z,ZK	5			
This subject deals with	This subject deals with the history of the Czech society in the 19th - 21th centuries. It follows the forming of the Czech political representation, its aims and achieved results as well as					
the social and cultural of	the social and cultural development and coexistence of the various ethnical groups in the Czech countries.					
BE0M16HVT	History of science and technology 2	Z,ZK	5			

This subject traces historical developments in electrical engineering branches in the world and in the Czech Lands. Its ultimate goal is to stimulate students' interest in the history and traditions of the subject, while highlighting the developments in technical education and professional organizations, the process of shaping scientific life and the influence of technical engineers

BE0M16FIL	Philosophy 2	Z.ZK	5
BE0M16PSM	Psychology	Z,ZK	5
BE0M16TEO	Theology	Z,ZK	4

This subject provides to students the basic orientation in christian theology and requires no special previous education. After short philosophic lecture the basic theologic disciplines are gone through. The subject is determined not only to believer students who want to know the reliable theologic grounding but also above all to ones who want to get know Christianity - religion from which graws our civilization up.

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

The role of the block: V

Code of the group: 2018_MEEMEVOL 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: ~Student can choose arbitrary subject of themagister's program (EEM - Electrical Engineering, Power Engineering and Management, EK - Electronics and Communications, KYR - Cybernetics and Robotics, OI - Open Informatics, OES - Open Electronics Systems) which is not part of his curriculum. Student can choose with consideration of recommendation of the branch guarantee. You can find a selection of optional courses organized by the departments on the web site

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

List of courses of this pass:

Code	Name of the course	Completion	Credits					
BDIP25	Diploma Thesis	Z	25					
Independent final	independent final comprehensive work for the Master's degree study programme. A student will choose a topic from a range of topics related to his or her branch of study, which will							

be specified by branch department or branch departments. The diploma thesis will be defended in front of the board of examiners for the comprehensive final examination.

	Philosophy 2	Z,ZK	5
BE0M16HSD1	History of economy and social studies	Z,ZK	5
	with the history of the Czech society in the 19th - 21th centuries. It follows the forming of the Czech political representation, its aims an the social and cultural development and coexistence of the various ethnical groups in the Czech countries.	•	ılts as well a
BE0M16HVT	History of science and technology 2	Z,ZK	5
his subject traces l	historical developments in electrical engineering branches in the world and in the Czech Lands. Its ultimate goal is to stimulate studen	nts' interest in th	e history an
raditions of the sub	ject, while highlighting the developments in technical education and professional organizations, the process of shaping scientific life a	and the influence	e of technica
BE0M16PSM	engineers Provide logy	Z,ZK	5
BE0M16TEO	Psychology Theology	Z,ZK	4
This subject providence gone through. The	es to students the basic orientation in christian theology and requires no special previous education. After short philosophic lecture the ne subject is determined not only to believer students who want to know the reliable theologic grounding but also above all to ones who religion from which graws our civilization up.	e basic theologi want to get kno	ic disciplines w Christianit
BE1M13ASS	Solar Systems Application /voltaic phenomena. Photovoltaic cells and modules and their characteristics. Photovoltaic systems and their applications. Photo-therma	Z,ZK	5
solal ellergy. Filoto	power stations. Significance, economic and environmental aspects of solar energy exploitation.	я рпепотепа.г	TIOIO-IIIEITII
BE1M13EKP	Ecology and Materials	Z.ZK	5
	logy from the perspective of ecology. Environmental assessment of the various types of surface protection. Environmental aspects of protection and the perspective of ecology.	,	-
electronics. Environr	mental impacts of electrical production. Ekodesign proposal of the electrical product. Principles of the proposal product for a difficult ope	erating environm	nent. Disposa
	of electrical waste.		
BE1M13JAS1	Quality and Reliability	Z,ZK	6
	efinitions from the area of quality and reliability and their control, philosophy of quality, systems of quality control in the world. Reliability and their basic absorbt reliability is a superposed and sold stood by the		-
	e area of reliability, basic distributions used in reliability and their basic characteristics. Back-up using a warm and cold standby, types nents and systems, calculation of reliability using composition and decomposition. and using a method of a list. Basic statistical methods		=
-	nagerial tools for quality control. Techniques FMEA and QFFD, house of quality. Capability of a process. Taguchi loss function. Audits. S	· ·	-
BE1M13VSE	Power components in electrical engineering	Z,ZK	5
1	uctor device (diodes, BJTs, thyristors, MOSFETs and IGBTs) and integraed structures (modules). Structures, function, characteristics	•	s, Passive
	components of powet electronic. Connection of devices in parallel and in series.		
BE1M14ESP	Electric Machinery and Apparatus	Z,ZK	5
	ed on contact and solid-state switching devices in LV networks. Basic topologies AC switches and stress of their components, systems		
•	otection circuits, testing electrical devices. The course also deals with the general theory of electrical machines. Magnetic field. Fundal		
	ency, voltage drop. Transients - switch to the network, a short circuit. Mathematical model of synchronous and asynchronous machines starting and speed control. Influence of harmonic magnetic field. Single-phase induction motor. Work synchronous machine on a netwo		•
	capacity.		1
BE1M14MDS1	Modeling of Dynamical Systems	Z,ZK	5
ne course deals wi	th combining knowledge of the dynamics of rigid bodies, fluid mechanics, aerodynamics, gas dynamics and thermodynamics in the cor		linear model
	of dynamic systems. Seminars are focused on assembling of numeric models in Matlah / Simulink	npliation of non	iiiloai iiiloaoi
RE1M1/ISSE	of dynamic systems. Seminars are focused on assembling of numeric models in Matlab / Simulink.		
	Machinery and Structures of Power Plants	Z,ZK	5
he aim of the cours	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p	Z,ZK roperties and ch	5 naracteristics
The aim of the cours	Machinery and Structures of Power Plants	Z,ZK roperties and ch Z,ZK	5 naracteristics
he aim of the cours BE1M14TVM The course focuse	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters	Z,ZK roperties and ch Z,ZK rers. It also sum	5 naracteristics 5 marizes the
The aim of the cours BE1M14TVM The course focuse basics of	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converters	Z,ZK roperties and ch Z,ZK rers. It also sum	5 naracteristics 5 marizes the
The aim of the cours BE1M14TVM The course focuse basics of BE1M15DEE	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converter and modern trends in their application in electric drives and of Distribution of Electrical Energy es students into power quality principles, transmission and distribution system equipment and protection. The course covers also Sma	Z,ZK roperties and ch Z,ZK ers. It also sumither applications Z,ZK	5 naracteristics 5 marizes the s.
BE1M14TVM The course focuse basics of BE1M15DEE	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converter on their sizing, switching and protection of power semiconductor converter on their sizing, switching and protection of power semiconductor converter and modern trends in their application in electric drives and of the power of the power quality principles, transmission and distribution system equipment and protection. The course covers also Sma including measurement and telecommunication systems.	Z,ZK roperties and ch Z,ZK ers. It also sum ther applications Z,ZK ert grid principles	5 naracteristics 5 marizes the s. 5 s and device
The aim of the cours BE1M14TVM The course focuse basics of BE1M15DEE The course introduc	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converter and modern trends in their application in electric drives and of Distribution of Electrical Energy es students into power quality principles, transmission and distribution system equipment and protection. The course covers also Sma including measurement and telecommunication systems. Electrical Light	Z,ZK roperties and ch Z,ZK rers. It also sumither applications Z,ZK art grid principles Z,ZK	5 naracteristics 5 marizes the s. 5 s and device
The aim of the cours BE1M14TVM The course focuse basics of BE1M15DEE The course introduc BE1M15ELS The aim of the course	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor convert of modulation and control strategies of power semiconductor converters and modern trends in their application in electric drives and of Distribution of Electrical Energy es students into power quality principles, transmission and distribution system equipment and protection. The course covers also Sma including measurement and telecommunication systems. Electrical Light se is to make students acquainted with most frequent applications of optical radiation and with theoretical and practical principles of recommendations.	Z,ZK roperties and ch Z,ZK rers. It also summither applications Z,ZK art grid principles Z,ZK esolving lighting	5 naracteristics 5 marizes the s. 5 s and device
The aim of the course BE1M14TVM The course focuse basics of BE1M15DEE The course introduc BE1M15ELS The aim of the course incourse incourse incourse incourse incourse incourse incourse incourse.	Machinery and Structures of Power Plants e is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, p Theory and Application of Power Converters es on typical applications of power semiconductor converters on their sizing, switching and protection of power semiconductor converter for modulation and control strategies of power semiconductor converters and modern trends in their application in electric drives and of Distribution of Electrical Energy es students into power quality principles, transmission and distribution system equipment and protection. The course covers also Sma including measurement and telecommunication systems. Electrical Light se is to make students acquainted with most frequent applications of optical radiation and with theoretical and practical principles of radioor and outdoor areas, respecting necessary visual performance with emphasis on energy efficiency solutions and aspects of health	Z,ZK roperties and ch Z,ZK ers. It also summither applications Z,ZK art grid principles Z,ZK esolving lighting and safety.	5 naracteristics 5 marizes the s. 5 s and device 5 g systems for
The aim of the course BE1M14TVM The course focuse basics of BE1M15DEE The course introduc BE1M15ELS The aim of the course inc BE1M15ENY	Machinery and Structures of Power Plants te is to acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, power plants acquaint students with forms of energy transformation in power plants, describing the function of power facilities, their structure, power plants acquaint students with forms of energy and Application of Power Converters the so is to acquaint students with forms of energy and Application of Power Converters the function of power semiconductor converters and modern trends in their application in electric drives and of the power quality principles, transmission and distribution system equipment and protection. The course covers also Smather including measurement and telecommunication systems. Electrical Light See is to make students acquainted with most frequent applications of optical radiation and with theoretical and practical principles of redoor and outdoor areas, respecting necessary visual performance with emphasis on energy efficiency solutions and aspects of health Power Plants	Z,ZK roperties and ch Z,ZK ers. It also summather applications Z,ZK art grid principles Z,ZK esolving lighting and safety. Z,ZK	5 naracteristics 5 marizes the s. 5 s and device 5 g systems fo
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BE1M16EUE1	Economy of Energy Use	Z,ZK	5		
Organization and energy management of company, buildings or energy systems. Energy need and consumption, energy balance. Energy characterization of aggregate, secondary					
energy sources. Energy audit and feasibility study, optimization of energy management of energy systems. Prices and tariffs, economy and financial analysis.					
BE1MPROJ	Individual project	Z	5		
Independent work in the form of a project. A student will choose a topic from a list of topics specified by branch department. The project will be defended within the framework of a					
subject.					

For updated information see http://bilakniha.cvut.cz/en/f3.html Generated: day 2025-08-13, time 05:56.