Recomended pass through the study plan

Name of the pass: Electrical Engineering, Power Engineering and Management

Faculty/Institute/Others: Faculty of Electrical Engineering
Department:
Pass through the study plan: Elektrotechnika, energetika a management, p ed roz azením do obor
Branch of study guranteed by the department: Common courses
Guarantor of the study branch:
Program of study: Electrical Engineering, Power Engineering and Management
Type of study: Bachelor combined
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	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
AD1B14BP1	**Safety in Electrical Engineering 1**	Z	0	4+8j	Z,L	P
AD1B14SEM	**Seminar on Electrical Engineering**	Z	2	0+14	Z	P
AD1B02FY1	**Physics 1 for EEM**	ZK	2	14+0s	L	P
AD0B01LAA	**Linear Algebra and its Applications**	Z,ZK	8	21+9	Z	P
AD0B16PRS	**Presentation skills**	Z	2	0+6s	Z,L	P
AD0B36PRI	**Programming**	Z,ZK	5	14KP+6KC	Z	P
AD1B14BPZS	**Basic health and occupational safety regulations**	Z	0	2+2j	Z	P
AD0B01MA1	**Introduction to Calculus**	Z,ZK	8	21+9	Z	P

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
AD1B38EMA	**Electrical Measurements**	KZ	5	14P+6L	L	P
AD1B31EOS	**Electrical circuits**	Z,ZK	6	21KP+6KS	L	P
AD1B16MME	**Macroeconomics and Microeconomics**	Z,ZK	5	14+6s	Z	P
AD1B15MAA	**Mathematic Applications**	Z,ZK	6	21+6c	L	P
AD1B13PPS	**Industrial computer systems**	Z,ZK	5	14KP+6KL	L	P
AD1B01MA2	**Multidimensional Analysis**	Z,ZK	6	14+6	L	P

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

List of courses of this pass:

Code	Name of the course	Completion	Credits
AD0B01LAA	Linear Algebra and its Applications	Z,ZK	8
The course covers standard basics of matrix calculus (determinants, inverse matrix) and linear algebra (linear space, basis, dimension, euclidean spaces, linear transformations) including eigenvalues and eigenvectors. Notions are illustrated in applications: matrices are used when solving systems of linear equations, eigenvalues are used for solving systems of linear differential equations.			
AD0B01MA1	Introduction to Calculus	Z,ZK	8
This is an introductory course to calculus of real functions of one variable. In the first part we study limits and continuity of functions, derivative and its geometrical meaning, graphing of functions. Then we define the indefinite integral, and discuss basic integration methods, the definite integral and its applications. We conclude with an introduction to Laplace transform and its use in solving differential equations.			
AD0B16PRS	Presentation skills	Z	2
Students will learn to prepare and to do presentation. They will obtain skills how to prepare written documents using typographic principles and proper way of citation and referencing. They will prove gained theoretical knowledge on self prepared interactive presentation that is recorded on video and discussed.			
AD0B36PRI	Programming	Z,ZK	5
The course is an introduction into basics programming using using the Java language. Its core are data types, expressions, functions (exemplified by those at Java programming language), algorithms complexity evaluation, basics of programming techniques. In a comparative way the basic properties of language C are presented.			
AD1B01MA2	Multidimensional Analysis	Z,ZK	6
The aim of the course is to introduce students to basics of differential and integral calculus of functions of more variables and to basics of series of numbers and functions.			
AD1B02FY1	Physics 1 for EEM	ZK	2
Within the framework of this course the students gain the knowledge of selected parts of physics. The introductory part of the course deals with the classical mechanics, which involves 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 the studies of other disciplines. Apart of this, the knowledge gained in this course is required for the study of the consecutive course Physics II.			
AD1B13PPS	Industrial computer systems	Z,ZK	5
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.			
AD1B14BP1	Safety in Electrical Engineering 1	Z	0
The purpose of the course is to give the students basic knowledge of electrical equipment and installation as to avoid danger arising from operation of it. In this way the students receive qualification of instructed person that enables them to work on electrical equipment according to the Directive of the Dean No. 1/2007			
AD1B14BPZS	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. Directive of the Dean No. 1/2007. This program is obligatory.			
AD1B14SEM	Seminar on Electrical Engineering	Z	2
The course summarizes the knowledge and shows practical use of electric energy from its production to its consumption. On the seminars, there are the basic fields of activity and related applications of following departments shown: Production and distribution of electric energy on the Department of Electroenergetics K13115, electric drives and actuators on the department of Electric Drives and Traction K13114, and the technology of production materials and equipment on the Department of Electrotechnology K13113.			
AD1B15MAA	Mathematic Applications	Z,ZK	6
The aim of the course is to obtain knowledge about mathematic programs used in power engineering. Student becomes acquainted with technical methods for gathering and data analysis, SW and HW hierarchy of resources and applications examples. Student will acquire basic knowledge about MATLAB, MATHEMATICA and mathematical model assessment. Student becomes also acquainted with the fields of complex variable function and numerical methods for solving algebraic and differential equations.			
AD1B16MME	Macroeconomics and Microeconomics	Z,ZK	5
Basic economic terms, market, law of demand, law of supply, market equilibrium, price regulation, price and income elasticities, consumer's behavior, producer's behavior, cost, revenue, profit, market failure, monopoly, government macroeconomic policy, gross domestic product, multipliers, money, inflation, banking system, monetary policy, labor market, business cycle, fiscal policy, foreign trade policy, comparative advantage, CR and EU, Euro.			
AD1B31EOS	Electrical circuits	Z,ZK	6
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. Finally, it presents the brief description of more sophisticated methods of analysis (Laplace transform, pulse excitation ?).			
AD1B38EMA	Electrical Measurements	KZ	5

For updated information see http://bilakniha.cvut.cz/en/f3.html
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