Studijní plán

Název plánu: Open Informatics - Computer and Information Science

Součást ČVUT (fakulta/ústav/další): Fakulta elektrotechnická
Katedra: katedra kybernetiky
Obor studia, garantovaný katedrou: Informatika a počítačové vědy
Garant oboru studia.: prof. Dr. Michal Pěchouček, MSc.
Program studia: Otevřená informatika
Typ studia: Bakalářské prezenční
Předepsané kredity: 163
Kredity z volitelných předmětů: 17
Kredity v rámci plánu celkem: 180
Poznámka k plánu:

Název bloku: Povinné předměty programu
Minimální počet kreditů bloku: 109
Role bloku: P

Kód skupiny: BBAPE
Název skupiny: Bachelor Thesis
Podmínka kredity skupiny: V této skupině musíte získat alespoň 20 kreditů (maximálně 320)
Podmínka předměty skupiny: V této skupině musíte absolvovat alespoň 1 předmět
Kredity skupiny: 20
Poznámka ke skupině:

Kód	**Název předmětu / Název skupiny předmětů** ***(u skupiny předmětů seznam kódů jejích členů)*** *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE0B16BAP	**Bachelor project**	Z	20	28s	Z,L	P
AE0B14BAP	**Bachelor Project**	Z	20		L	P
AE0B02BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B13BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B39BAP	**Bachelor Project**	Z	20		L	P
AE0B17BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B31BAP	**Bachelor Project**	Z	20		L	P
AE0B32BAP	**Bachelor Project** ***Ivan Pravda***	Z	20	28s	L	P
AE0B34BAP	**Bachelor Project** ***Miroslav Husák***	Z	20	28C	L	P
AE0B37BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B33BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B35BAP	**Bachelor Project**	Z	20	28s	L	P
AE0B38BAP	**Bachelor Project**	Z	20	0P+28C	L	P
AE0B36BAP	**Bachelor Project**	Z	20		L	P
AE0B15BAP	**Bachelor's thesis**	Z	20	28s	L	P
ABAP20	**Bakalářská práce - Bachelor thesis**	Z	20	28s	L,Z	P

Charakteristiky předmetů této skupiny studijního plánu: Kód=BBAPE Název=Bachelor Thesis

AE0B16BAP	Bachelor project	Z	20
AE0B14BAP	Bachelor Project	Z	20
AE0B02BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination.			
AE0B13BAP	Bachelor Project	Z	20
Independent final project for the Bachelor's degree study program. 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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination.			
AE0B39BAP	Bachelor Project	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B39BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B39BAP			

AE0B17BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Bachelor, s projects are oriented into microwave technique, antennas, propagation, optoelectronics, EMC, medical applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B17BAP			
AE0B31BAP	Bachelor Project	Z	20
The subject Bachelor Project is an independent final project for the Bachelor's degree study programme. A student will choose a topic from a range of topics related to his or her field of study, which will be specified by branch department or branch departments. The Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B31BAP			
AE0B32BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B32BAP			
AE0B34BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B34BAP			
AE0B37BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B37BAP			
AE0B33BAP	Bachelor Project	Z	20
AE0B35BAP	Bachelor Project	Z	20
AE0B38BAP	Bachelor Project	Z	20
AE0B36BAP	Bachelor Project	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36BAP			
AE0B15BAP	Bachelor's thesis	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15BAP			
ABAP20	Bakalářská práce - Bachelor thesis	Z	20
Samostatná závěrečná práce bakalářského studia komplexního charakteru. Téma práce si student vybere z nabídky témat souvisejících se studovaným oborem, která vypíše oborová katedra či katedry. Práce bude obhajována před komisí pro státní závěrečné zkoušky.			

Kód skupiny: BOIEP
Název skupiny: Compulsory subjects of the programme
Podmínka kredity skupiny: V této skupině musíte získat 89 kreditů
Podmínka předměty skupiny: V této skupině musíte absolvovat alespoň 14 předmětů
Kredity skupiny: 89
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE4B33ALG	**Algorithms**	Z,ZK	6	2+2c	L	P
AE4B01MA2	**Calculus**	Z,ZK	8	4+2	L	P
AE0B36APO	**Computer Architectures**	Z,ZK	6	2+2L	L	P
AE0B35SPS	**Computer Systems Structures**	Z,ZK	6	3+2L	Z	P
AE4B01DMA	**Discrete mathematics** *Marie Demlová Marie Demlová (Gar.)*	Z,ZK	7	2+2	Z	P
AE4B01JAG	**Languages, automata and grammars** ***Marie Demlová***	Z,ZK	6	2+2	Z	P
AE0B01LAG	**Linear Algebra**	Z,ZK	7	4+2	Z	P
AE0B01LGR	**Logic and Graph Theory**	Z,ZK	6	3+2	L	P
AE4B33OPT	**Optimization**	Z,ZK	7	4+2c	Z	P
AE4B02FYZ	**Physics for Informatics**	Z,ZK	6	2+2L	L	P
AE0B01PSI	**Probability, Statistics, and Theory of Information** *Kateřina Helisová* ***Kateřina Helisová***	Z,ZK	6	4+2	Z	P
AE0B36PR1	**Programming 1** *Božena Mannová* ***Božena Mannová*** *Božena Mannová (Gar.)*	Z,ZK	6	2+2c	Z	P
AE0B36PR2	**Programming 2** *Božena Mannová, Ivan Jelínek Ivan Jelínek (Gar.)*	Z,ZK	6	2+2c	L	P
AE4B99RPH	**Solving problems and other games**	KZ	6	1+3c	Z	P

Charakteristiky předmětů této skupiny studijního plánu: Kód=BOIEP Název=Compulsory subjects of the programme

AE4B33ALG	Algorithms	Z,ZK	6
In the course, the algorithms development is constructed with minimum dependency to programming language; nevertheless the lectures and seminars are based on Java. Basic data types a data structures, basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching, sorting, special application algorithms. Students are able to design and construct non-trivial algorithms and to evaluate their affectivity. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33ALG			

AE4B01MA2	Calculus	Z,ZK	8
This is an introductory course to calculus. In the first part we study limits, continuity and derivative of real functions of one variable. Then we define the indefinite integral, discuss basic integration methods, the definite integral and its applications. We extend the discussion to real functions of more variables, partial derivatives and multiple integrals. We conclude with the study of real numerical series.			
AE0B36APO	Computer Architectures	Z,ZK	6
Subject provides overview of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge presented in the previous lectures of Structures of computer systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsystem and basic overview of network and buses topologies. Emphasis is placed on clarification of interconnection of hardware components with software support, mainly lower levels of operating systems, device drivers and virtualization techniques. General principles are more elaborated during presentation of examples of multiple standard CPU architectures. Exercises are more focused on the software view to the contrary. Students are lead from basic programming on CPU level to the interaction with raw hardware. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36APO			
AE0B35SPS	Computer Systems Structures	Z,ZK	6
The subject introduces into basic hardware structures of computer systems, into their design and architecture. It explains technical background of classic computer systems but also special computer for digital and logic control. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B35SPS			
AE4B01DMA	Discrete mathematics	Z,ZK	7
In this course students meet some important topics from the field of discrete mathematics. Namely, they will explore divisibility and calculations modulo n, diophantine equations, binary relations, induction, cardinality of sets, and recurrence equations. The second aim of this course is to teach students the language of mathematics, both passively and actively, and introduce them to mathematics as science. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01DMA			
AE4B01JAG	Languages, automata and grammars	Z,ZK	6
The course covers basics of the theory of finite automata and grammars: deterministic and nondeterministic finite automata, characterization of the class of languages accepting by a finite automaton and description of such a language by a regular expression. Grammars and languages generated by a grammar, context-free grammars will be emphasized. The relation will be shown between context-free grammars and push down automata. Next topic is a Turing machine and the existence of non-decidable problems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01JAG			
AE0B01LAG	Linear Algebra	Z,ZK	7
This course covers introductory topics of linear algebra. The main focus is on the related notions of linear spaces and linear transformations (linear independence, bases and coordinates) and matrices (determinants, inverse matrix, matrix of a linear mapping, eigenvalues). Applications include solving systems of linear equations, geometry in 3-space (including dot product and cross product), and solving linear differential equations. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LAG			
AE0B01LGR	Logic and Graph Theory	Z,ZK	6
The course covers basics of logic and theory of graphs. Propositional logic contains: truth validation, semantical consequence and tautological equivalence of formulas, CNF and DNF, complete systems of logical connectives, and resolution method in propositional logic. In predicate logic the stress is put on formalization of sentences as formulas of predicate logic, and resolution method in predicate logic. Next topic is an introduction to the theory of graphs and its applications. It covers connectivity, strong connectivity, trees and spanning trees, Euler?s graphs, Hamilton?s graphs, independent sets, and colourings. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LGR			
AE4B33OPT	Optimization	Z,ZK	7
The course provides fundamentals of mathematical optimisation in finite dimensional (euclidean) spaces: linear programming incl. duality, least squares, optimality conditions for non-linear problems, convexity, basic numerical algorithms, dynamic programming.			
AE4B02FYZ	Physics for Informatics	Z,ZK	6
Within the framework of this course students gain the knowledge of selected parts of classical physics and dynamics of the physical systems. The introductory part of the course deals with the mass particle kinematics; dynamics, with the system of mass particles and rigid bodies. The students should be able to solve basic problems dealing with the description of mechanical systems. The introduction to the dynamics of the systems will allow to the students deeper understanding as well as analysis of these systems. The attention will be devoted namely to the application of the mathematical apparatus to the solution of real physical problems. Apart of this, the knowledge gained in this course will help to the students in the study of other disciplines, which they will meet during their further studies. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B02FYZ			
AE0B01PSI	Probability, Statistics, and Theory of Information	Z,ZK	6
Basics of probability theory, mathematical statistics, information theory, a coding. Includes descriptions of probability, random variables and their distributions, characteristics and operations with random variables. Basics of mathematical statistics: Point and interval estimates, methods of parameters estimation and hypotheses testing, least squares method. Basic notions and results of the theory of Markov chains. Shannon entropy, mutual and conditional information, types of codes. Correspondence between entropy and the optimal code length. Information channels and their capacity, compression.			
AE0B36PR1	Programming 1	Z,ZK	6
The aim of the course is to teach the students: basic interactions with user interface and to program development system, introduction to JAVA, basic control flow structures and data structures, functions, arrays, object-oriented programming concepts, streams and files. The students are able to construct and debug a simple program in Java. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PR1			
AE0B36PR2	Programming 2	Z,ZK	6
The course moves along the understanding of programming skills from Programming 1, the aim is to design an interactive application with a graphic user interface (GUI), with knowledge of polymorphism abstract classes, interfaces, events handling, applets, user libraries, library practical application. Further students continue by the comparative way in getting acquainted in C language on the base of Java language, dynamic memory management, students are able to analyze the simple programs in C language. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PR2			
AE4B99RPH	Solving problems and other games	KZ	6
The main motivation is to let students to deal with real-world problems properly. When working in teams on real problems the student shall learn how to decompose the big problem, how to define interfaces, how to test and validate individual steps and so on. Many problems will actually be beyond the first-year-student skills. And many problem will not be solved in the optimal way. The unsolved parts should motivate the students to study difficult theoretical subjects. They should generate the important questions. Ideally, at the end of the subject, the student should be eager to study deeper about informatics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B99RPH			

Kód skupiny: BOIEBBE
Název skupiny: Safety of the bachelor's studies
Podmínka kredity skupiny:
Podmínka předměty skupiny: V této skupině musíte absolvovat alespoň 2 předměty
Kredity skupiny: 0
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE4B14BPZS	**Basic health and occupational safety regulations**	Z	0	2+2j	Z	P
AE4B14BP1	**Safety in Electrical Engineering 1**	Z	0	4+8j	Z	P

Charakteristiky předmětů této skupiny studijního plánu: Kód=BOIEBBE Název=Safety of the bachelor's studies

AE4B14BPZS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BPZS

AE4B14BP1	Safety in Electrical Engineering 1	Z	0

http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BP1 Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BP1

Název bloku: Povinné předměty oboru
Minimální počet kreditů bloku: 42
Role bloku: PO

Kód skupiny: BOIEPO2
Název skupiny: Compulsory subjects of the branch
Podmínka kredity skupiny: V této skupině musíte získat 36 kreditů
Podmínka předměty skupiny: V této skupině musíte absolvovat alespoň 6 předmětů
Kredity skupiny: 36
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE4B33DS	**Database Systems**	Z,ZK	6	2+2c	L	PO
AE4B33FLP	**Functional and Logic Programming**	Z,ZK	6	2+2c	L	PO
AE4B33ZUI	**Introduction to Artificial Intelligence**	Z,ZK	6	2+2c	L	PO
AE4B01NUM	**Numerical Analysis**	Z,ZK	6	2+2c	Z	PO
AE4B33OSS	**Operating Systems and Networks**	Z,ZK	6	2+2c	Z	PO
AE4B33RPZ	**Pattern Recognition and Machine Learning**	Z,ZK	6	2+2c	Z	PO

Charakteristiky předmětů této skupiny studijního plánu: Kód=BOIEPO2 Název=Compulsory subjects of the branch

AE4B33DS	Database Systems	Z,ZK	6

Database Systems, Web Applications Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33DS

AE4B33FLP	Functional and Logic Programming	Z,ZK	6

This course introduces students into the techniques of functional programming in the LISP (or more precisely SCHEME) and HASKELL language and logic programming in the PROLOG language. Both languages are declarative in that the programmer symbolically describes the problem to be solved, rather than enumerating the exact sequence of actions to be taken. In PROLOG, one describes the problem by specifying properties of objects and relations thereamong through logic formulas. In LISP, the problem description takes the form of function definitions. Both languages have found significant applications in artificial intelligence fields, such as agent systems or symbolic machine learning. Motivating tasks from these domains will be used throughout the course. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33FLP

AE4B33ZUI	Introduction to Artificial Intelligence	Z,ZK	6

This course provides introduction to symbolic artificial intelligence. It presents the algorithms for informed and non-informed state space search, nontraditional methods of problem solving, knowledge representation by means of formal logic, methods of automated reasoning and introduction to markovian decision making. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33ZUI

AE4B01NUM	Numerical Analysis	Z,ZK	6

The course introduces to basic numerical methods of interpolation and approximation of functions, numerical differentiation and integration, solution of transcendent and ordinary differential equations and systems of linear equations. Emphasis is put on estimation of errors, practical skills with the methods and demonstration of their properties using Maple and computer graphics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01NUM

AE4B33OSS	Operating Systems and Networks	Z,ZK	6

The goal of this course is to introduce basic concepts and principles of operating systems (OS), like processes and threads, their scheduling, mutual communication and synchronization, time-dependent errors and deadlocks. Attention is also paid to memory management, virtual memory, management of secondary storages, file-systems and data security. The second part of the course is focused at distributed systems (DS) principles and technologies. DS communication media and topologies are explained and the basics of Internet including specific protocols are treated as typical DS applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33OSS

AE4B33RPZ	Pattern Recognition and Machine Learning	Z,ZK	6

The basic formulations of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observations and classes of objects is acquired by learning on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, Support Vector Machines, and Neural Nets. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33RPZ

Kód skupiny: BOIEPRO
Název skupiny: Software or Research Project
Podmínka kredity skupiny: V této skupině musíte získat 6 kreditů

Podmínka předměty skupiny: V této skupině musíte absolvovat 1 předmět
Kredity skupiny: 6
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE4B33SVP	**Software or Research Project**	KZ	6		Z,L	PO
AE4B39SVP	**Software or Research Project**	KZ	6		Z,L	PO
AE4B36SVP	**Software or Research Project**	KZ	6		Z,L	PO

Charakteristiky předmětů této skupiny studijního plánu: Kód=BOIEPRO Název=Software or Research Project

AE4B33SVP	Software or Research Project	KZ	6

Project work. Student is expected to work independently under an advisor supervision. The topic of the project should be relevant to the major branch of the study. The work must have a clearly defined output like a technical report and/or software. More details, including project topics can be found at: http://cyber.felk.cvut.cz/study/student-projects/ The topic may also be negotiated independently. In case of doubts a discussion with the guarantor/director of the major study branch is encouraged. http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33SVP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33SVP

AE4B39SVP	Software or Research Project	KZ	6

Samostatná práce na problému-projektu pod vedením školitele. V rámci tohoto předmětu je možné (obvyklé) řešit dílčí problém bakalářské práce. Proto doporučujeme zvolit si téma bakalářské práce nejpozději počátkem 5. semestru a jeho včasný výběr nepodcenit. Absolovování předmětu softwarový a výzkumný projekt musí mít jasně definovaný výstup, například technickou zprávu či programový produkt, který je ohodnocen klasifikovaným zápočtem. Důležité upozornění: - Standardně není možné absolovat více než jeden předmět tohoto typu. - Výjimku může udělit garant hlavního (major) oboru. Možný důvod pro udělení výjimky je, že práce-projekt má jiné téma a je vedena jiným vedoucím. Typickým příkladem může být práce na projektu v zahraničí. Kontaktní email v případě dalších dotazů: oi@fel.cvut.cz Bližší pokyny k zadání a vypracování projektu naleznete na stránkách katedry počítačové grafiky a interakce http://dcgi.felk.cvut.cz/cs/study/predmetprojekt. Projekt je v rámci předmětu obhajován. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/A4B39SVP

AE4B36SVP	Software or Research Project	KZ	6

http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B36SVP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B36SVP

Název bloku: Volitelné předměty
Minimální počet kreditů bloku: 12
Role bloku: V

Kód skupiny: BOIEVOLSUB
Název skupiny: Elective special subjects
Podmínka kredity skupiny:
Podmínka předměty skupiny:
Kredity skupiny: 0
Poznámka ke skupině: ~Student can choose arbitrary subject of the bachelor's program (EEM - Electrical Engineering, Power Engineering and Management, KME - Communications, Multimedia and Electronics, KYR - Cybernetics and Robotics, OI - Open Informatics) which is not part of his curriculum. Student can choose with consideration of recommendation of the branch guarantee. \\

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE0B02AKA	**Acoustic Applications** *Ondřej Jiříček* ***Ondřej Jiříček*** *Ondřej Jiříček (Gar.)*	KZ	4	2+2L	Z	V
AE0B13PTE	**Advanced technology in electrical engineering**	Z,ZK	5	2+2L	L	V
AE0B38LPT	**Aircraft Instrumentation**	Z,ZK	5	2P+2L	L	V
AE2B31ANO	**Analog Circuits**	Z,ZK	5	2+2c	Z	V
AE3B35APE	**Applied Electronics**	Z,ZK	6	2+2L	L	V
AE3B35ARI	**Automatic Control**	Z,ZK	7	4+2L	L	V
AE0B14AEE	**Automotive Electrical and Electronic Engineering**	Z,ZK	4	2+2L	L	V
AE0B31ZZS	**Basic Signal Processing**	Z,ZK	4	2+2c	Z	V
AE1B16EKP	**Business Economics**	Z,ZK	5	2+2s	L	V
AE1B16PAP	**Business Law**	Z,ZK	5	2+2s	Z	V
AE0B38OCP	**Circuits of Digital Instruments** *Jan Holub* ***Jan Holub*** *Jan Holub (Gar.)*	Z,ZK	5	2P+2L	L	V
AE1B37KEL	**Communication and Electronics** *Pavel Kovář, Josef Dobeš* ***Karel Ulovec*** *Josef Dobeš (Gar.)*	KZ	4	2+2L	Z	V
AE2B37KMM	**Communication and Measurement in Multimedia** ***Karel Ulovec***	Z,ZK	6	2+2L	Z	V
AE2B99KAM	**Communication and Multimedia** ***Robert Bešťák***	Z	5	2+2c	Z	V

AE2B99KOS	**Communication Systems** *Pavel Kovář, Robert Bešťák, Ivan Pravda* ***Robert Bešťák*** *Robert Bešťák (Gar.)*	Z,ZK	6	2+2L	L	v
AE0B13KEO	**Construction of Electronic Circuits**	Z,ZK	4	2+2L	Z	v
AE3B33KUI	**Cybernetics and Artificial Intelligence**	Z,ZK	5	2+2c	L	v
AE2B32DAT	**Data networks**	Z,ZK	5	2+2c	Z	v
AE2B99DIT	**Digital Engineering**	Z,ZK	5	2+2L	L	v
AE3B38DSY	**Distributed Systems and Computer Networks**	Z,ZK	7	4P+2L	Z	v
AE0B14SPP	**Drive Sensors**	Z,ZK	4	2+2L	Z	v
AE3B33DRR	**Dynamics and Control of Robots**	Z,ZK	6	2+2L	Z	v
AE0B13EKE	**Ekologie pro elektrotechniky**	Z,ZK	4	2+2L	Z	v
AE3B14EPR	**Electric drive for automation and robotics**	Z,ZK	6	2+2s	L	v
AE1B14PO1	**Electric Drives and Traction 1**	Z,ZK	6	2+2L	Z	v
AE1B14SP1	**Electric Machinery and Apparatus 1**	Z,ZK	5	3+2L	Z	v
AE1B31EOS	**Electrical circuits**	Z,ZK	6	3+2s	L	v
AE3B31EOP	**Electrical Circuits and Elements**	Z,ZK	8	4+2c	Z	v
AE0B15EIN	**Electrical Installations**	Z,ZK	4	2+2L	L	v
AE2B38EMB	**Electrical Measurements and Instrumentation** *Jakub Svatoš*	Z,ZK	5	2P+2L	Z	v
AE1B38EMA	**Electrical Measurements and Instrumentation**	KZ	5	2P+2L	L	v
AE1B17EMP	**Electromagnetic Field** *Jan Macháč Jan Macháč (Gar.)*	Z,ZK	5	2p+2c	Z	v
AE2B17EPV	**Electromagnetic Field, Waves and Lines**	Z,ZK	5	2p+2s	L	v
AE2B34ELP	**Electron Devices** *Pavel Hazdra, Julius Foit* ***Pavel Hazdra*** *Pavel Hazdra (Gar.)*	Z,ZK	5	2P+2L	L	v
AE0B13ETM	**Electrotechnical materials**	Z,ZK	4	2+1L	L	v
AE0B14TME	**Engineering mechanics**	Z,ZK	4	2+2s	L	v
AE0B02ZIP	**Environmental Science** *Rudolf Bálek* ***Rudolf Bálek*** *Rudolf Bálek (Gar.)*	ZK	2	2+0s	Z	v
AE2B17PMS	**Fixed and Mobile Wireless Links**	Z,ZK	6	2+2s	L	v
AE0B38APH	**FPGA Applications** *Radek Sedláček* ***Radek Sedláček*** *Radek Sedláček (Gar.)*	KZ	5	1P+3L	Z	v
AE2B31ZEO	**Fundamentals of Electrical Circuits**	Z,ZK	5	2+2s	L	v
AE2B31HPM	**Hardware for Multimedia**	Z,ZK	6	2+2L	Z	v
AE2B17VMT	**High Frequency and Microwave Technique** *Jan Vrba* ***Jan Vrba*** *Jan Vrba (Gar.)*	Z,ZK	6	2+2L	Z	v
AE0B15VNZ	**High-voltage Testing**	Z,ZK	4	2+2L	Z	v
AE1B13PPS	**Industrial computer systems**	Z,ZK	5	2+2L	L	v
AE2B13PEL	**Industrial Electrical Engineering**	Z,ZK	5	2+2L	Z	v
AE3B38PRT	**Instrumentation for Data Acqusition and Proces Control** *Antonín Platil* ***Antonín Platil*** *Antonín Platil (Gar.)*	Z,ZK	6	2P+2L	Z	v
AE0B01MA1	**Introduction to Calculus**	Z,ZK	8	3+3	Z	v
AE2B99LES	**Laboratory of Electronic Systems**	Z,ZK	6	2+2c	L	v
AE0B01LAA	**Linear Algebra and its Applications**	Z,ZK	8	3+3	Z	v
AE1B16MME	**Macro and Microeconomics** *Jan Jandera* ***Jan Jandera*** *Jan Jandera (Gar.)*	Z,ZK	5	2+2s	Z	v
AE1B13VVZ	**Manufacturing of Power Devices**	Z,ZK	6	2+2L	Z	v
AE0B13MTE	**Materials and technology for electronics**	Z,ZK	4	2+2L	L	v
AE1B13MVE	**Materials for Power Electrical Engineering**	Z,ZK	5	2+2L	Z	v
AE1B15MAA	**Mathematic Applications**	Z,ZK	6	3+2c	L	v
AE2B99MAA	**Mathematical Applications**	KZ	4	2+2c	L	v
AE3B01MA1	**Mathematics 1**	Z,ZK	8	4+2	Z	v
AE3B01MA2	**Mathematics 2**	Z,ZK	7	4+2	L	v
AE0B17MTB	**Matlab** *Rostislav Karásek, Pavel Valtr* ***Pavel Valtr*** *Pavel Valtr (Gar.)*	KZ	4	0P+3C	Z,L	v
AE2B34MIK	**Microcontrollers**	Z,ZK	6	2P+2L	Z	v
AE3B38MMP	**Microprocessors and Microcontrollers in Instrumentation**	Z,ZK	6	2P+2L	L	v
AE1B14MIS	**Microprocessors for Power Systems**	Z,ZK	5	2+2L	Z	v
AE3B35MSD	**Modeling and Simulation of Dynamic Systems**	Z,ZK	6	2+2L	Z	v

AE1B01MA2	**Multidimensional Analysis**	Z,ZK	6	2+2	L	v
AE2B01MA3	**Multidimensional Calculus**	Z,ZK	6	2+2	Z	v
AE2B31SMS	**Multimedia signal synthesis**	Z,ZK	6	2+2c	Z	v
AE2B37MMT	**Multimedia Technology**	Z,ZK	6	2+2L	L	v
AE0B13NNT	**Nanotechnology**	Z,ZK	4	2+2s	Z,L	v
AE2B32SOS	**Network Operating Systems** *Pavel Troller, Ján Kučerák* ***Ján Kučerák*** *Pavel Troller (Gar.)*	Z,ZK	6	2+2c	Z	v
AE2B32PPS	**Network Planning and Operation**	Z,ZK	6	2+2c	L	v
AE2B17OKS	**Optical Communication Systems** *Stanislav Zvánovec, Matěj Komanec, Jan Šístek* ***Stanislav Zvánovec*** *Stanislav Zvánovec (Gar.)*	Z,ZK	6	2+2c	Z	v
AE2B34OFT	**Optoelectronics and Photonics**	Z,ZK	6	2P+2L	Z	v
AE1B02FY1	**Physics 1 for EEM**	ZK	2	2+0s	L	v
AE2B02FY1	**Physics 1 for KME**	Z,ZK	4	2+2L	Z	v
AE3B02FY1	**Physics 1 for KyR**	Z,ZK	6	4+2L	L	v
AE1B02FY2	**Physics 2 for EEM**	Z,ZK	4	2+2L	Z	v
AE2B02FY2	**Physics 2 for KME**	KZ	3	2+1L	Z	v
AE3B02FY2	**Physics 2 for KyR**	Z,ZK	5	3+2L	Z	v
AE1B14VE1	**Power Electronics 1**	Z,ZK	5	2+2L	L	v
AE1B15EN1	**Power Engineering 1**	Z,ZK	5	2+2L	Z	v
AE1B15EN2	**Power Engineering 2**	Z,ZK	6	2+2s	L	v
AE1B15EN3	**Power Engineering 3**	Z,ZK	5	2+2s	L	v
AE0B15PES	**Power Systems Operation**	Z,ZK	5	2+2s	Z	v
AE2B37ZST	**Principles of Studio Technology**	Z,ZK	6	2+2L	Z	v
AE0B36PRI	**Programming** *Božena Mannová* ***Božena Mannová*** *Božena Mannová (Gar.)*	Z,ZK	5	2+2c	Z	v
AE0B38PSM	**Programming Data Acquisition Systems** ***Antonín Platil***	KZ	5	2P+2C	Z	v
AE1B16RIP	**Project management**	KZ	5	2+2s	L	v
AE2B37ROZ	**Radio Circuits and Devices** *Pavel Kovář, Josef Dobeš, Karel Ulovec* ***Karel Ulovec*** *Josef Dobeš (Gar.)*	Z,ZK	6	2+2s	Z	v
AE2B17VFM	**Radiofrequency Measurement** *Přemysl Hudec, Karel Hoffmann* ***Přemysl Hudec*** *Přemysl Hudec (Gar.)*	Z,ZK	6	2+2L	Z	v
AE3B33ROB	**Robotics**	Z,ZK	6	2+2L	L	v
AE3B99RO	**Robots**	KZ	5	1+3L	Z	v
AE0B02POS	**Scientific View of the World**	Z	2	2s	L	v
AE1B14SEM	**Seminar on Electrical Engineering**	Z	2	2s	Z	v
AE0B38SES	**Sensor Networks**	Z,ZK	5	2P+2L	Z	v
AE3B38SME	**Sensors and Measurement**	Z,ZK	6	3P+2L	L	v
AE2B34SEI	**Sensors in Electronics and Informatics** *Miroslav Husák, Adam Bouřa* ***Miroslav Husák*** *Miroslav Husák (Gar.)*	Z,ZK	6	2P+2L	L	v
AE2B99SAS	**Signals and systems**	Z,ZK	5	2+2c	L	v
AE2B34IAE	**Smart Electronics**	Z,ZK	6	2P+2L	Z	v
AE1B13SVS	**Solar Energy Application Systems**	Z,ZK	5	2+2L	L	v
AE0B02FPL	**Solid State Physics**	Z,ZK	5	2+2s	Z	v
AE0B14TDO	**Technical Documentation**	KZ	3	1+2L	Z	v
AE1B13VST	**Technologies in Electrical Engineering**	Z,ZK	6	2+2L	L	v
AE2B32TSI	**Telecommunication Systems and Networks** ***Robert Bešťák***	Z,ZK	6	2+2L	L	v
AE2B32PSS	**Transmission Systems and Networks**	Z,ZK	6	2+2L	Z	v
AE0B13SPE	**Welding and Soldering in Electrotechnics**	KZ	4	2+2L	L	v

Charakteristiky předmětů této skupiny studijního plánu: Kód=BOIEVOLSUB Název=Elective special subjects

AE0B02AKA	Acoustic Applications	KZ	4
Lecture summarize applications in physical acoustics, room and building acoustics, environmental acoustics, noise and vibration control, physiological acoustics, diagnostics, and ultrasound. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B02AKA			
AE0B13PTE	Advanced technology in electrical engineering	Z,ZK	5
The topic of subject is oriented on selected materials and technics which are offering a new properties and facilities to electrical products.New superconductive materials,special pure polymers and their composites,materials with memory of form,inteligent polymers,materials and structures based on nanoparticles.Selected types of beam technics and their use in practice.			

AE0B38LPT	Aircraft Instrumentation	Z,ZK	5
The course deals with theory and description of function of aircraft's low frequency instruments and systems. Students test them and measure their parameters in laboratory courses.			
AE2B31ANO	Analog Circuits	Z,ZK	5
The course is designed to acquaint students with the basics of analog electronic circuits. The first part is devoted to fundamental transistor amplifiers and elemental structures of analog integrated circuits. Then the typical applications of operational amplifiers are introduced, including non-linear networks and basic frequency filter design and implementation. Problems of oscillators are discussed at the conclusion. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B31ANO			
AE3B35APE	Applied Electronics	Z,ZK	6
The main goal of this subject is acquirement of the knowledge for design of the real electronics equipments especially in area of the control systems and robotic. In comparison with analogical specialized theoretical subjects emphasis is placed on the practical application. Here the design of the schematic, choice of the suitable components, design of the printed circuit board and mechanical aspects will be explained. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B35APE			
AE3B35ARI	Automatic Control	Z,ZK	7
Foundation course of automatic control. Introduction to basic concepts and properties of dynamic systems of physical, engineering, biological, economics, robotics and informatics nature. Basic principles of feedback and its use as a tool for altering the behavior of systems and managing uncertainty. Classical and modern methods for analysis and design of automatic control systems. Students specialized in systems and control will build on these ideas and knowledge in the advanced courses to follow. Students of other branches and programs will find out that control is a inspiring, ubiquitous and entertaining field worth of a future cooperation. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B35ARI			
AE0B14AEE	Automotive Electrical and Electronic Engineering	Z,ZK	4
Operational conditions for vehicle electronic equipment. Vehicle power sources. Laboratory training is oriented on practical measurement of basic assemblies and elements in vehicle equipment. Visit to the ŠKODA AUTO factory in Mladá Boleslav is included.			
AE0B31ZZS	Basic Signal Processing	Z,ZK	4
The introductory subject to the study of Digital Signal Processing. The main emphasis is focused on the interpretation and acquirement of the basic principals. Practical approaches and real examples from different areas (music, biomedical engineering, speech processing communication systems) are used. The program system MATLAB is used for the tasks solution, which offers comfortable and user friendly environment with graphical and sound outputs and allows digital signal processing in different formats.			
AE1B16EKP	Business Economics	Z,ZK	5
Targets and function of business, corporation life cycle. Cost classification, cost calculation, cost curves. Profit, production, price and cost relation. Taxes. Financial calculus and investment decision-making. Business plan. Management functions, corporation organizational schemes. Processes and firm management.			
AE1B16PAP	Business Law	Z,ZK	5
Introduction to Legal Terminology. Legal Regulation of Business in the Czech Republic. Legal Regulation of Business in European Union and legally binding Regulation for business subjects in the Czech Republic. Basic legal Regulations concerning Business Activities. Introduction to Commercial Law, commercial law obligation relationships, business entities, co-operatives, public control. Introduction to Civil Law, civil law obligation relationships, personal entities and legal entities, analogy of law, public control. Introduction to Trade Law, rights and duties of businessmen, business trade operation, commencement and types of trade authorization, public control. Introduction to Labour Law, labour law relationships, types of contractual relationships, public control. Protection of the competition. Enforcement of Law and executive proceedings.			
AE0B38OCP	Circuits of Digital Instruments	Z,ZK	5
Basic types of circuits and blocks of digital measuring instruments are described and analysed. Range and linearity for analogue circuits and interfaces for digital circuits are analysed in detail. Finally, individual projects including block design, model realisation and parameters verification are solved. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38OCP			
AE1B37KEL	Communication and Electronics	KZ	4
The purpose of the subject is acquiring fundamental knowledge of related themes of communication and electronics. First, the students are introduced to fundamentals of communication, the most important analog and digital modulations, and basic conception of radio systems. Second, students give information about basic elements, connections, and function blocks of electronics. The last part of the subject is devoted to explication of fundamental circuits of radio engineering. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B37KEL			
AE2B37KMM	Communication and Measurement in Multimedia	Z,ZK	6
The aim of the subject is to give basic overview of present and perspective communication systems, mainly in relation to signal transmission and measurement. Lectures and practices make students familiar with technical principles of systems, basic conception of transmitter and receiver and measurement of these systems. Subject is focused on multimedia systems; it means systems for voice, audio, video and generally data transmission. Practices are based on laboratory measurements.			
AE2B99KAM	Communication and Multimedia	Z	5
The subject is focused on an introduction of 1st term students (Bc. study) to the field of communication and multimedia technology and electronics. This field is very broad and offers to students multidisciplinary (interdisciplinary) education. At the beginning of study it is important to inform students about different parts. The task is to do it in popular and acceptable form and show the most important parts of this very broad industrial and research branch. The area is covered by five departments providing educational and research inputs. This interdisciplinary subject demonstrates as an introduction to study expected job opportunities in IT, assistive, biomedical and other technologies. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B99KAM			
AE2B99KOS	Communication Systems	Z,ZK	6
The subject builds on knowledge of basic types of interfaces used in telecommunications (from classic, via a packet-oriented and expected future generation system). Explains the importance of key parameters, presents tools for the monitoring and measurement methodology and fault diagnosis. Students verify acquired knowledge to practical tasks in the laboratory to real systems and advanced measurement techniques.			
AE0B13KEO	Construction of Electronic Circuits	Z,ZK	4
Printed circuit boards and modular constructions. Single sided, double sided and multi-layer boards. Through-hole and surface mount technologies. Designing printed circuits patterns. Passive and semiconductor components for electronic circuits. Manual and automated assembly. Soldering techniques. Testing of printed circuit boards during the manufacturing.			
AE3B33KUI	Cybernetics and Artificial Intelligence	Z,ZK	5
The course will enable students to understand the basic concepts, goals and methods of cybernetics and artificial intelligence, and align some individual topics studied in the bachelor stage into the more profound context of the study program. The syllabus contains topics concerned with general aspects of systems and information theory, problem solving and state space search principles, elements of game theory, knowledge and expert systems, elements of decision theory, recognition and machine learning. The most important feature of the course is its unifying conceptual approach to many, at first sight diverse, components of cybernetics and aritifical intelligence. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B33KUI			
AE2B32DAT	Data networks	Z,ZK	5
The course introduces students to the basics of communication in a variety of data networks. The aim of the course is to provide a more comprehensive view of communication protocol for specific types most commonly used data networks according to the RM-layer OSI model. The course also allows students to look into ways of communicating with TCP/IP in the Internet, including the possibility of a practical realization of the data network in laboratory conditions using real equipment. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32DAT			

AE2B99DIT	Digital Engineering	Z,ZK	5
In this course, students will learn design principles for combinational and sequential digital circuits, using TTL components as well as field programmable gate arrays. The functional design using standard mathematical description and VHDL will be used for designing and realization of various digital circuits. The laboratory classes will be arranged as a set of laboratory tasks and practical examples. Some laboratory lessons will be focused on VHDL and its application for realization of basic digital circuits using FPGAs, their simulations and emulations as well as creating more advanced digital blocks.			
AE3B38DSY	Distributed Systems and Computer Networks	Z,ZK	7
Subject is devoted to principles and technologies of distributed systems (DS) and to their employment in typical applications. Physical layer media, analog and digital modulations, DS topologies, MAC methods, coding and cryptography basics are introduced. Widely used standard systems are then presented together with their features. Internet protocols are explained and internetworking approaches presented. Finally the typical industrial applications of distributed systems are introduced. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38DSY			
AE0B14SPP	Drive Sensors	Z,ZK	4
Electric and non-electric quantity sensors for drives, Basic sensors types - physical principles. Theoretical fundamentals, practical choice of suitable sensor, sensor output electrical circuit, sensor output signal processing, digital signal processing and noise suppression. Sensor output signal time characteristics and frequency characteristics. Practical lab verification of theoretical principles			
AE3B33DRR	Dynamics and Control of Robots	Z,ZK	6
The subject undrestands the robot as a dynamical system. Its design, identification, control and programming will be introduced. The methods can be used for other electromechanic systems, e.g., production machines and manipulation devices.			
AE0B13EKE	Ekologie pro elektrotechniky	Z,ZK	4
Influence of the industrial production on the environment. Sources of gaseous and solid exhalation, pollution of effluents waste, sources of outlet and raw materials. Industrial technology from the ecological point.Degradation influence of environment. Technology of waste processing. Ecological management. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13EKE			
AE3B14EPR	Electric drive for automation and robotics	Z,ZK	6
Principle, philosophy and characteristics sources seat power control energy, changers for power supply small el. drive. Industrial automat used for drive el. drive. Small machinery and special electrical machine used in automatization and robots. Proposal electrical drive for automation application. Practical exhibits and check feature el. drive			
AE1B14PO1	Electric Drives and Traction 1	Z,ZK	6
Application of motion equation in drives, the motor torque, the load torque, the dynamical torque. Operating modes, electromechanical transient effects. Drives with DC motors, induction motors, synchronous motors, SRM, EC motors, linear motors. For each type its properties, speed control strategy and block scheme of a controller, range of application. Drive control computer structure, shared resources organization, special hardware blocks for signal measurement and signal generation in drives, programming techniques and languages for software development and debugging, migration from analog signal processing to the digital signal processing, time sampling and amplitude quantization, aliasing, difference equations and digital control algorithms. Drive commissioning Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14PO1			
AE1B14SP1	Electric Machinery and Apparatus 1	Z,ZK	5
Electric drive and its components. Electromechanical energy conversion. Rotational converters - DC machines, induction motors, synchronous generators and motors. Special electric machines, actuators. Static converters - transformers. There are presented operational principles, main constructional scheme and characteristics, applications. Switching theory. Interaction between turn-off switch and switched circuit. Basic theory and characteristic of electric arc. Transient recovery voltage. Switching overvoltage. Low voltage protection apparatuses Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14SP1			
AE1B31EOS	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 ?). Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B31EOS			
AE3B31EOP	Electrical Circuits and Elements	Z,ZK	8
The Subject deals with basic and most important principles of the electrical circuit analysis. It defines basic circuit variables and elements, and real components of actual electrical equipments. Subject deals with basic metods of the circuit analysis. It is oriented on basic thematic units of the analogue and digital technics that are necessary for the cybernetics and control technique study. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B31EOP			
AE0B15EIN	Electrical Installations	Z,ZK	4
Basic design of electrical power circuit-wiring in housing and industrial building, wires dimension, introduction to protection and wire grounding in distribution point - low voltage and high voltage.			
AE2B38EMB	Electrical Measurements and Instrumentation	Z,ZK	5
Methods of measurement of electrical physical quantities (voltage, current, power, frequency, resistance, capacitance and inductance) are explained together with principles of their correct application and accuracy estimation. The course is closed by presenting information of several basic electronic measuring instruments and explaining fundamentals of magnetic measurements and basic information concerning measurement systems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B38EMB			
AE1B38EMA	Electrical Measurements and Instrumentation	KZ	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B38EMA			
AE1B17EMP	Electromagnetic Field	Z,ZK	5
This course gets its students acquinted with principles and applied electromagnetic field theory basics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B17EMP			
AE2B17EPV	Electromagnetic Field, Waves and Lines	Z,ZK	5
This course presents fundamentals of electromagnetic field theory and its applications. Analysis methods proper for static, stationary as well as dynamic fields and waves in free space and on basic transmission lines are presented as well. This course provides students with physics - based wiev on studied effects, which is applied then on engineering problems. At the end of the course, all effects should not only be described, but quantified as well. Basic knowledge and insight into communication devices, systems and techniques is provided, applicable not only to systems currently taught in other courses, but to future systems as well. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17EPV			
AE2B34ELP	Electron Devices	Z,ZK	5
This course introduces the basic theory, principles of operation and properties of electron devices. Physical principles of operation, device structures and characteristics are explained together with adequate models for small- and large-signal. Basic applications in analogue and digital electronics are examined. In seminars and labs, students are introduced to basic principles of device simulation, measurement of device characteristics and extraction of device parameters. Operation of electron devices in electronic devices is then analyzed using the PSpice simulator. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34ELP			
AE0B13ETM	Electrotechnical materials	Z,ZK	4
The main material characteristics as conductivity, permittivity, magnetic susceptibility etc. and their relations to the composition and structure are explained. The subject is concentrated namely on the metal conductors, semiconductors, dielectrics, magnetics and superconductors. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13ETM			

AE0B14TME	Engineering mechanics	Z,ZK	4
This subject provides knowledge of applied mechanics for the industry practice. Analysis of constructional elements and their dimensioning. Kinematics of simple mechanisms. Dynamic behaviour of mechanical systems, mechanic vibrations. Thermodynamics of real gases and vapours, their processes an cycles, basic comparative cycles of heat machines. Fundamentals of hydrodynamics, transport losses in hydraulic systems.			
AE0B02ZIP	Environmental Science	ZK	2
Attention is devoted to the basis of ecology, to the growth of human population, to the capitalization of energy and to other resources of the biosphere. The pollution of water, soil, and air together with a waste treatment is evaluated. The impact of mechanic, electric, magnetic fields and chemical components to environment is also discussed. Economy, law and morality in relation to environment are dealt with. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B02ZIP			
AE2B17PMS	Fixed and Mobile Wireless Links	Z,ZK	6
The goal of the course is to provide basic knowledge of the wireless transmission in real environments for specific applications, namely for the needs of the planning of wireless radio links. The key topics include: the wireless transmission, the link budget for various types of radio links, antenna parameters, basic types and applications of antennas, propagation of radio waves in the atmosphere for specific frequency bands and telecommunication services, propagation models for planning of fixed an mobile links for both terrestrial and satellite services, the interference and frequency planning, basics of cellular networks, ITU-R recommendations. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17PMS			
AE0B38APH	FPGA Applications	KZ	5
After the short introduction into structure and technology of programmable circuits (especially the CPLD and FPGA), the lectures are devoted to the VHDL and its usage for simulation and synthesis of digital circuits. Laboratories are focused on CPLD and FPGA circuit applications and on the used of SW instruments for programmable hardware design and simulation. Within the larger project implemented in the second part of laboratories a complete device (system on the chip) is implemented in the FPGA or CPLD circuit. Students may choose from the list of project or they can bring their own (even a group projects are possible). Development boards with FPGA (or CPLD) are available. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38APH			
AE2B31ZEO	Fundamentals of Electrical Circuits	Z,ZK	5
The subject describes fundamental methods of electrical circuit analysis. After a brief introductory part where the difference between an electrical device and its models is introduced, the basic ideal passive and active circuit elements are then defined. Next, basic circuit quantities are defined; lectures are then focused on important laws and methods of analysis of electrical circuits. Circuit theorems, an analysis of DC circuits, AC circuits, first-order and second-order circuits are described. Finally, a brief description of more sophisticated methods of analysis (Laplace transform, pulse excitation) is done. The seminars are focused on getting a theoretical experience in analysis of electrical circuits, supplemented with simulations and simple measurement. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B31ZEO			
AE2B31HPM	Hardware for Multimedia	Z,ZK	6
Subject provides concise basic overview of hardware used in multimedia (MM). It however does not try to achieve an encyclopedic completeness - instead of it, detailed analysis is carried out for selected blocks containing interesting technical solutions and more general principles. The main focus is specialization of digital function blocks for processing of MM data. Analog circuits are described manly as a complement to digital core. Frequent examples of MM data are used to illustrate functions of individual HW blocks.			
AE2B17VMT	High Frequency and Microwave Technique	Z,ZK	6
Goal of the lectures is to explain to students basic principals of rf. and microwave circuits, both passive and active (e.g. attenuators, couplers, isolators and circulators, modulators, oscillators, mixers and amplifiers). In conclusion to subjects on theory of EM fields a topics of transmission lines and waveguides (e.g. microstrip line, coplanar line, circular, , H and dielectric waveguide) and resonators (a section of transmission line, cavity, open, dielectric) are described Further a circuit analysis based on scattering parameters is being explained. Basic applications of rf. and microwave circuits are being discussed. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17VMT			
AE0B15VNZ	High-voltage Testing	Z,ZK	4
The aim of the subject is the introduction of metrological system and testing procedures in the field of high voltage techniques. It brings overview of modern diagnostic methods that are applied in electrical power systems. The subject opens questions in evaluation and interpretation of test results from the application of diagnostic methods and high-voltage tests.			
AE1B13PPS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13PPS			
AE2B13PEL	Industrial Electrical Engineering	Z,ZK	5
A student will, at first, meet with information about basic types of materials for electrical engineering, their properties, technologies and applications. The next task is focused on the fundamentals, function and service characteristics of transformers, power electronic converters, generators, DC and AC motors and contact electric apparatus. The problems are tested on the mains supply real units. The third part of the course deals with power electrical engineering, with the basic characteristic of a power system in the Czech Rep. and with types, operational modes and environmental impact of different types of power sources.			
AE3B38PRT	Instrumentation for Data Acqusition and Proces Control	Z,ZK	6
An automation of production, quality control or research and development are based on the use of data acquisition systems. Different types of standardized systems, their parameters, programming, and applications are described here. Laboratories are pointing to the programming of frequently used systems using different developing tools. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38PRT			
AE0B01MA1	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01MA1			
AE2B99LES	Laboratory of Electronic Systems	Z,ZK	6
The objective of the subject is to inform students about potential of electronic circuit simulations. The course is based on concrete applications. Themes of the first part of the lectures are put to a test on basic circuits. Specific circuit applications follow with a detailed explanation and a simulation in exercises afterwards. Selected circuits will be checked by laboratory measurements.			
AE0B01LAA	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LAA			
AE1B16MME	Macro 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.			
AE1B13VVZ	Manufacturing of Power Devices	Z,ZK	6
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.			

AE0B13MTE	Materials and technology for electronics	Z,ZK	4
Ability of creative application of materials in electronics is extended in the field of technology of their processing and the change of the properties of materials during their exploitations in electrical circuits, microelectronics, optoelectronic applications, sensors, actuators, superconductors, semiconductors, magnetic structures, and special applications. The processing technologies and the ageing processes are based on the relationships between composition, internal structure, and properties of materials. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13MTE			
AE1B13MVE	Materials for Power Electrical Engineering	Z,ZK	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13MVE			
AE1B15MAA	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15MAA			
AE2B99MAA	Mathematical Applications	KZ	4
The course is designed to acquaint students with the basics work in the mathematical programs Maple and MATLAB. The first part of the course is devoted to the algebraic system Maple and its use for for solving differential and integral calculus of one variable, linear algebra and arithmetic with complex numbers. The second part of the subject is devoted to MatLab program and its application in solving computational problems in engineering practice, particularly for signal processing. Next, there is an introduction to the analysis of electrical circuits in the program Maple with PraCAn package.			
AE3B01MA1	Mathematics 1	Z,ZK	8
The aim of the course is to introduce students to basics of differential and integral calculus of functions of one variable. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B01MA1			
AE3B01MA2	Mathematics 2	Z,ZK	7
The subject covers an introduction to the differential and integral calculus in several variables and basic relations between curve and surface integrals. Other part contains function series and power series with application to Taylor and Fourier series. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B01MA2			
AE0B17MTB	Matlab	KZ	4
Students will learn how to efficiently use both basic and advanced Matlab functions, including graphic user interface design. Emphasis will be put on problem analysis and implementation, understanding Matlab documentation, debugging user-defined functions and independent work with Matlab (proved by work on the project). Knowledge acquired can be applied to a broad spectra of courses taught at FEE (processing labs, final projects) and can be used in future professional career.			
AE2B34MIK	Microcontrollers	Z,ZK	6
The goal of this course is to make students acquainted with recent interesting applications, smart sensors circuits and peripherals handled by microcontrollers. In a lab students will program their own application and measure its properties. Because of usage of a programming language C it will be possible to focus on the practical part of the realization.			
AE3B38MMP	Microprocessors and Microcontrollers in Instrumentation	Z,ZK	6
Applications of microprocessors and single chip microcontrollers in instrumentation techniques are presented in this course. The course is focused on describing function and programming in embedded applications.			
AE1B14MIS	Microprocessors for Power Systems	Z,ZK	5
Power electronics control computer structure, digital signal processor and ALU added features for fast real time calculations. Interrupt system and DMA system, analog signal measurement, fast impulse signal measurement, fast impulse generation support, inter-computer communication, system and power management, programming languages for power systems software development, programming techniques, software development tools (simulators, emulators, monitors), input signal conditioning circuitry, conversion from analog signals to digital processing, time sampling, amplitude quatization, power electronics control block design and implementation, difference equations and control algorithms, fixed and floating point calculations, debugging methods, program parametrization, guides and rules for implementation and application of power system control computers. Real time operating system, scheduler, dispatcher and another features and guides for application Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14MIS			
AE3B35MSD	Modeling and Simulation of Dynamic Systems	Z,ZK	6
Cílem předmětu je naučit se vytvářet matematické modely složitých dynamických systémů, a to sice modely použitelné coby podklad pro návrh řídicích algoritmů. Budeme se soustředit na systémy obsahující podsystémy různé fyzikální povahy. Ukážeme si, že koncept energie (či výkonu), který je univerzálně platný napříč fyzikálními doménami, je tím správný nástrojem pro spojování subsystémů elektrických, mechanických, hydraulických, ale i termodynamických. Některé poznatky a dovednosti získané v tomto kurzu však budou alespoň částečně použitelné i v oblastech, kde koncept energie není tak užitečný (systémy sociologické, ekonomické). Představíme si tři skupiny metod, které konceptu energie využívají, a to sice analytické metody pro Lagrangeovské a Hamiltonovské modelování známé z teoretické mechaniky, objektově orientované modelování coby alternativu více rozšířeného modelování pomocí blokových diagramů, a především velmi intuitivní metodiku vazebních grafů. Ať už se k matematickému modelu dostaneme jakoukoliv cestou, jedním ze způsobů jeho analýzy je simulace, tedy numerické řešení souvisejících diferenciálních či algebro-diferenciálních rovnic. V kurzu si představíme aspoň základní metody pro numerické řešení obyčejných diferenciálních rovnic s motivací získat porozumění problematice aproximačních chyb, numerické stability i vhodnosti různých metod pro různé modely.			
AE1B01MA2	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B01MA2			
AE2B01MA3	Multidimensional Calculus	Z,ZK	6
The course covers an introduction to differential and integral calculus in several variables and basic relations between curve and surface integrals. We also introduce function series and power series with application to Taylor and Fourier series. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B01MA3			
AE2B31SMS	Multimedia signal synthesis	Z,ZK	6
This course introduces the fundamentals of sound synthesis algorithms (everyday, music and speech), digital audio effects and sonification. Multimedia synthetic signals are used in modern digital systems, virtual reality systems, computer animations, games and film. Understanding of theoretical concepts will be consolidated through practical programming assignments in Matlab.			
AE2B37MMT	Multimedia Technology	Z,ZK	6
This course is the introduction to multimedia technology (audio and video). It overviews sound and picture acquisition, signal processing, transmission and distribution, recording and reproduction including physiology of hearing and vision. It provides fundamental information for understanding the main principles for system solutions in the field. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37MMT			
AE0B13NNT	Nanotechnology	Z,ZK	4
The course is under way of essential convergence of the nano-bio-info fields in nanoscale. The lectures are focused on the characterization of nanostructures, growth of fractals and nanostructures and self-assembly of nanostructures, top-down and bottom-up processes, nanomaterials like nanotubes and graphene, application in nano-electro-mechanical systems, new materials, medicine, new sources of energy, and bio-inspired nano-structures like atificial tissues. Effects of the nanoscale onto sintering processes and plasma treatmets of materials are discussed.			

AE2B32SOS	Network Operating Systems	Z,ZK	6
Network operating systems, Linux, Unix. Administration and network tools, managing and administration of documentation. The graduates will be informed about basic conception and procedures in operating systems administration (UNIX) and gain the basic facility in operating systems configuration based on the x 86 platforms. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32SOS			
AE2B32PPS	Network Planning and Operation	Z,ZK	6
The subject expands knowledge obtained in precedent studies on such issues as network planning, network design, network constructions and network operation. The attention is further given to the legislation in telecommunications and to the business aspects of telecommunications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32PPS			
AE2B17OKS	Optical Communication Systems	Z,ZK	6
The main aim of the subject is to introduce principals of the optical system theory. The subject includes theoretical background of optics, practical skills for design of optical systems with utilization of professional software. Moreover it incorporates electron optics, matrix optics, Gaussian beams, transition through optical components, absorption and dispersion, optical transmitter and receiver, detection, fundamental technology and measurement of optical waveguides. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17OKS			
AE2B34OFT	Optoelectronics and Photonics	Z,ZK	6
The subject describes the basic principles and application of the novel devices for modern optical systems. Students will obtain the basic knowledge in fundamental functional principles of the waveguide optics and optoelectronics, semiconductor lasers and LEDs, semiconductor light detectors, principles of waveguide optics, structures and components for distribution and harnessing of optical radiation, integrated optical circuits and optical sensors. Recent trends in advanced optical communication systems, optical amplifiers, optical multiplexing systems with their components are also mentioned. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34OFT			
AE1B02FY1	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 2. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B02FY1			
AE2B02FY1	Physics 1 for KME	Z,ZK	4
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 2. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B02FY1			
AE3B02FY1	Physics 1 for KyR	Z,ZK	6
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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B02FY1			
AE1B02FY2	Physics 2 for EEM	Z,ZK	4
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. The knowledge gained in this course will help to students in the study of such modern disciplines as measuring technique, propagation of electromagnetic waves, electroacoustic or optical communications and will allow them to understand the principles of novel technologies and functioning of new electronic devices. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B02FY2			
AE2B02FY2	Physics 2 for KME	KZ	3
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. Relativistic mechanics, quantum mechanics and nuclear physics will complete the student´s general education in physics. The knowledge gained in this course will help to students in the study of such modern disciplines as measuring technique, propagation of electromagnetic waves, electroacoustic or optical communications and will allow them to understand the principles of novel technologies and functioning of new electronic devices. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B02FY2			
AE3B02FY2	Physics 2 for KyR	Z,ZK	5
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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B02FY2			
AE1B14VE1	Power Electronics 1	Z,ZK	5
Power semiconductor devices, their serial and parallel connection, voltage and current dimensioning, point-to-point and bridge rectifiers, reversible rectifiers, control pulse generators, AC/AC and DC/DC converters, voltage source inverters, current source inverters, resonance inverters, frequency converters, matrix converters, principles of electromagnetic compatibility, cooperation of power semiconductor converters with DC and AC motors, survey of power semiconductor converters application in engineering practice Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14VE1			
AE1B15EN1	Power Engineering 1	Z,ZK	5
The subject provides basic knowledge about the CR power system structure and operational characteristics and electrical power systems. Then it informs about the electric strength of insulators, machines and other power system devices. It presents knowledge about damaging phenomena of insulation systems and procedures for their elimination. It enables to meet insulation systems testing and diagnostics problems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN1			
AE1B15EN2	Power Engineering 2	Z,ZK	6
The subject is focused on the task of electrical energy transmission and distribution. It introduces particular components of electrical systems and their electrical parameters. It explains steady and failure states in ES and other transient events. It explains principles of electrical devices protections, dimensioning principles and electrical stations realization in the transmission and distribution system. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN2			
AE1B15EN3	Power Engineering 3	Z,ZK	5
The aim of the course is to become students acquainted with heat transfer laws, the design and use of resistive, dielectric, induction and arc electro-heat devices, thermal comfort of human being, heating of interiors and examples of particular problems of electro-heat devices design and calculations. The next part of the course acquaints students with basics of photometry, light measurement, light sources, luminaires and fundamentals of indoor and outdoor lighting. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN3			

AE0B15PES	Power Systems Operation	Z,ZK	5
The subject deals with legislative and technical conditions of electrical power systems operation. It covers systems operation at all voltage levels, basic system quantities control at both supply and consumption side, system dispatching control. It also informs about systems interconnection and extraordinary states. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15PES			
AE2B37ZST	Principles of Studio Technology	Z,ZK	6
The course gives basic knowledge of elements and systems used in television and radio professional and semiprofessional studio technology and of technology of radio and television production and broadcasting. Laboratory exercises are situated in a small school studio and are completed with professional excursions. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37ZST			
AE0B36PRI	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PRI			
AE0B38PSM	Programming Data Acquisition Systems	KZ	5
A subject deals with modern data acquisition systems (DAQ) being used in laboratory and industrial environment. Lectures are focused on detailed description of DAQ systems properties, software development and typical laboratory and industrial applications. Assigned software tasks in laboratories are solved using C/C++ language or LabVIEW environment.			
AE1B16RIP	Project management	KZ	5
Bases of project management. Project Development Cycle. Project planning. Team project management. Information system of project management. Software support for planning and project management.			
AE2B37ROZ	Radio Circuits and Devices	Z,ZK	6
The goal of the subject is to inform the students about properties, parameters, and design methodology of radio circuits, radio function blocks, and more complex blocks of radio transmitters and receivers. The lectures are devoted sequentially to elements, circuits, function blocks, and systems which are used at radio frequencies. The exercises are both seminar and laboratory; the seminars are devoted the basic calculations from the area of the radio function blocks, and the measurements are devoted to both basic function blocks and more complex problems from the area of radio transmitters and receivers. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37ROZ			
AE2B17VFM	Radiofrequency Measurement	Z,ZK	6
The subject guides students to gain both theoretical and practical skills in radiofrequency and microwave measurements. It is focused on measurement methods and instruments applied e.g. in telecommunication, radio, radar, cable network, navigation, and other systems working in frequency band from units of MHz to 50GHz, thus from classical radio to microwave area. Students are informed about basic principles and construction of generators, synthesizers, frequency counters, vector generators, spectrum, signal, scalar and vector analyzers and their applications in various measurement methods. Theoretical knowledge from lectures are supplemented by practical measurements in laboratories equipped with modern instruments applied in current professional practice. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17VFM			
AE3B33ROB	Robotics	Z,ZK	6
The course introduces a robotics as an integrating discipline designing and exploring machines with high degree of flexibility and autonomy. Broader context of robotics is presented first and then kinematics and statics of robots is studied in the detail. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B33ROB			
AE3B99RO	Robots	KZ	5
AE0B02POS	Scientific View of the World	Z	2
Scientific view of the world in broader relations to human knowledge, philosophy and culture. The subject motivates an interest in new and open problems and deeper philosophical connections. Racionality, mathematics, physics Space-time, gravitation. Structure and evolution of the Universe. Quantum phenomena and their philosophical aspects. Deterministic chaos, fractals. Information and entropy. Evolution, evolution of man. Technology and perspectives.			
AE1B14SEM	Seminar on Electrical Engineering	Z	2
School play, how acquaint with used electrotechnics from production - sources after as much as consumption - electrical drive, drive data processing and their presentation. Exhibits simulated exercises electrotechnic experiments after as much as excursion with real demonstration industrial process and remote monitoring operating mode Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14SEM			
AE0B38SES	Sensor Networks	Z,ZK	5
The course introduces the fundamentals of sensor networks (primarily wireless sensor networks). Emphasis will be placed on distributed data processing in sensor networks and differences between sensor and computer networks. Laboratory exercises enable an implementation of small sensor network for real application in the frame of individual student project. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38SES			
AE3B38SME	Sensors and Measurement	Z,ZK	6
Basic circuits and instruments for measurement of electrical quantities, AD and DA converters, sensors focused to use in robotics and automation, intelligent sensors, methods of decreasing uncertainties. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38SME			
AE2B34SEI	Sensors in Electronics and Informatics	Z,ZK	6
The subject describes basic physical, electronic as well as optoelectronic behaviours using in sensors and microsensors, static and dynamic parameters, improvement of parameters, sensor data processing, intelligent sensors, applications of basic principles in sensors (temperature, pressure, optoelectronic and fibre optic, radiation, chemical, mechanical, level, flow, ultrasound, etc.). There are showed principles and applications of MEMS and microsystems in the subject. Principles are demonstrated on actual sensor datasheets and applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34SEI			
AE2B99SAS	Signals and systems	Z,ZK	5
Course explains basic terms and methods for continuous-time and discrete-time signal and system analysis. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B99SAS			
AE2B34IAE	Smart Electronics	Z,ZK	6
The aim of the course is to show and present to the students the modern trends used in electronics design. It will practically show the usage of electronic devices, circuits and functional blocks. Typical methods, errors and mistakes during the design process flow will be shown.During the exercises students will design a concept and select appropriate electronic components for circuit realization. Simulation software will help to compare the designed circuit with the realized one. Evalution boards with complete software support from STMicroelectronics will help the students to understand the basic function of presented integrated circuits. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34IAE			
AE1B13SVS	Solar Energy Application Systems	Z,ZK	5
Solar energy. Photo-thermal phenomena.Photo-thermal power stations. Photovoltaic phenomena. Photovoltaic cells and modules and their characteristics. Photovoltaic systems and their applications. Significance, economic and environmental aspects of solar energy exploitation. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13SVS			
AE0B02FPL	Solid State Physics	Z,ZK	5
Elementary physics of solids for students of electrotechnology. Dwescription and classification of solids. Thermal properties of solids. Types of bonds in solids. Real crystals, their defects and surfaces. Electrons in solids, the band structure, electrons and holes. Metals, semiconductors, insulators. Transport phenomena, generation and recombination of minority carriers. Magnetism, magnetic properties of solids. Optical phenomena in solids, luminiscence, stimulated emission.			

AE0B14TDO	Technical Documentation	KZ	3
In the subject TECHNICAL DOCUMENTATION students are acquainted with creation and defending of graphical and text technical documentation and with professional presentation in electro technical projects and design. Students are taught to fundamentals of technical drawing (projection methods, representation, sectional views, dimensioning, qualitative parameters etc.), to technical standards, to creation of graphical documentation in electro-technical branches, to creation of technical text documentation. In one half of seminars are students acquainted with basics of the graphic editor AutoCAD Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B14TDO			
AE1B13VST	Technologies in Electrical Engineering	Z,ZK	6
Production systems in electrical engineering will be characterized, their arrangement and basic technologies for mechanical joints and plastic parts. 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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13VST			
AE2B32TSI	Telecommunication Systems and Networks	Z,ZK	6
The subject discusses principles of telecommunication systems - mainly digital transmission systems and digital switching systems. The subject will provide students with the overview of the entire telecommunication domain, so that they can solve particular problems related to network traffic. They will also obtain basic knowledge of technologies that are used in modern wired and wireless networks. Results of the survey (students' opinions) concerning the subject can be found here: https://www.fel.cvut.cz/cz/anketa/aktualni/courses/AE2B32TSI			
AE2B32PSS	Transmission Systems and Networks	Z,ZK	6
The communication systems are presented in wide area network context. The optical technology in backbone networks is dominant segment of the subject. The transmission and multiplexing of the digital signals are primary part of the subject, the reliability, distribution of clock, management, monitoring and design of the network are secondary part of the subject. The students can use theoretic knowledge in practice while working on the model project of transmission network.			
AE0B13SPE	Welding and Soldering in Electrotechnics	KZ	4
Předmět se zabývá současnými metodami svařování a pájení kovů, zejména s ohledem na aplikace v elektrotechnickém průmyslu a mikroelektronice. Jsou prezentovány metody svařování plamenem, obloukovému svařování obalovanou elektrodou, WIG, MIG, MAG, laserovému svařování, plasmovému svařování, svařování elektronovým svazkem, odporovému a vf svařování. Zvláštní pozornost je věnována technologii pájení a wire bondingu. Praktická cvičení poskytují základní kurz svařování elektrickým obloukem.			

Kód skupiny: BOIEJKA
Název skupiny: English languege courses
Podmínka kredity skupiny:
Podmínka předměty skupiny:
Kredity skupiny: 0
Poznámka ke skupině:

Kód skupiny: BOIEHEM
Název skupiny: Humanities, economically-management subjects
Podmínka kredity skupiny: V této skupině musíte získat alespoň 12 kreditů (maximálně 999)
Podmínka předměty skupiny: V této skupině musíte absolvovat alespoň 3 předměty
Kredity skupiny: 12
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
AE0B16EPD	**Business economics** *Tomáš Podivínský* ***Tomáš Podivínský*** *Tomáš Podivínský (Gar.)*	KZ	4	2+2s	Z,L	V
AE0B16ET1	**Ethic**	KZ	4	2+2s	L	V
AE0B16HI1	**History I**	KZ	4	2+2s	Z	V
AE0B16HT1	**History of science and technology 1** *Marcela Efmertová, Jan Mikeš* ***Jan Mikeš*** *Marcela Efmertová (Gar.)*	KZ	4	2+2s	Z	V
AE1B16MME	**Macro and Microeconomics** *Jan Jandera* ***Jan Jandera*** *Jan Jandera (Gar.)*	Z,ZK	5	2+2s	Z	V
AE0B16FI1	**Philosophy I** *Peter Zamarovský* ***Peter Zamarovský*** *Peter Zamarovský (Gar.)*	KZ	4	2+2s	Z,L	V
AE0B16PRS	**Presentation skills** *Craig Alan Morgan Jaroslav Knápek (Gar.)*	Z	2	2s	Z,L	V
AE0B16MPS	**Psychology**	Z,ZK	4	2+2s	Z	V
A003TV	**Tělesná výchova**	Z	2	0+2	L,Z	V

Charakteristiky předmetů této skupiny studijního plánu: Kód=BOIEHEM Název=Humanities, economically-management subjects

AE1B16MME	Macro 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.			
AE0B16EPD	Business economics	KZ	4
AE0B16ET1	Ethic	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 human 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.			
AE0B16HI1	History I	KZ	4
The main purpose of this subject is to provide a historical overview and explanation of rises and developments of mass movements and totalitarian states in 20th century. The course is based on political and econom-social history with attention to philosophic and psychlogic connections.			

AE0B16HT1	History of science and technology 1	KZ	4
This subject provides basic information on the development of science and technology in the world and at home from the earliest times to the present. The course is aimed primarily at explaining the significance of key levels of technology development, industrial revolutions and their impact on society. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16HT1			
AE0B16FI1	Philosophy I	KZ	4
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 with recent problems of science, technology, economics and politics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16FI1			
AE0B16PRS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16PRS			
AE0B16MPS	Psychology	Z,ZK	4
Psychology of personality. Industrial and organizational psychology. Psychology in human resources management. Workgoups and teams, roles and competencies. Psychology in sales, consumer behavior analysis, psychology in marketing. Personality of a manager and leader. Time management, planning, delegation. Corporate culture.			
A003TV	Tělesná výchova	Z	2

Kód skupiny: BETVK
Název skupiny: Physical Courses
Podmínka kredity skupiny:
Podmínka předměty skupiny:
Kredity skupiny: 0
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
A0B03TVKL	**Tělovýchovný kurz letní**	Z	1	7dní	L	v
A0B03TVKZ	**Tělovýchovný kurz zimní**	Z	1	7dní	Z	v

Charakteristiky předmětů této skupiny studijního plánu: Kód=BETVK Název=Physical Courses

A0B03TVKL	Tělovýchovný kurz letní	Z	1
Student je povinen absolvovat letní nebo zimní TV kurz. Cílem kurzů je zdokonalení pohybových dovedností v některých sportech. Letní kurzy - herní (basketbal,fotbal,frisbee,nohejbal,softbal,tenis,volejbal), turistické (cyklistické,kanoistické,pěší,vysokohorské), specializované (windsurfing).			
A0B03TVKZ	Tělovýchovný kurz zimní	Z	1
V prvním roce bakalářské etapy je student povinen absolvovat jeden z TV kurzů (zimní nebo letní). Obsahem kurzů je zdokonalení pohybových dovedností v některých sportech. Zimní kurz - výcvik v běžeckém lyžování, výcvik ve sjezdovém lyžování, snowboarding.			

Kód skupiny: BETV
Název skupiny: Physical Training
Podmínka kredity skupiny:
Podmínka předměty skupiny:
Kredity skupiny: 0
Poznámka ke skupině:

Kód	Název předmětu / Název skupiny předmětů *(u skupiny předmětů seznam kódů jejích členů)* *Vyučující,* ***autoři*** *a garanti (gar.)*	Zakončení	Kredity	Rozsah	Semestr	Role
03TV	**Tělesná výchova**	Z	1	2s	Z,L	v
A0B03TV3	**Tělesná výchova 3**	Z	1	2s	Z	v
A0B03TV4	**Tělesná výchova 4**	Z	1	2s	L	v
A0B03TV5	**Tělesná výchova 5**	Z	1	2s	Z	v
A0B03TV6	**Tělesná výchova 6**	Z	1	2s	L	v

Charakteristiky předmětů této skupiny studijního plánu: Kód=BETV Název=Physical Training

03TV	Tělesná výchova	Z	1
V bakalářské a inženýrské (magisterské) etapě si může student zapsat (maximálně 7-krát) tělesnou výchovu 03TV. Za absolvování volitelné TV získává student jeden kredit (maximálně 7 za celé studium na FEL). Nabídka sportovních odvětví je shodná s nabídkou pro 03TV1 až 4. Náplň výuky v jednotlivých sportovních odvětvích najdete na : http://www.Feld.cvut.cz/fee/K303 - oddíly tělesné výchovy			
A0B03TV3	Tělesná výchova 3	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			

A0B03TV4	Tělesná výchova 4	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TV5	Tělesná výchova 5	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TV6	Tělesná výchova 6	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			

Seznam předmětů tohoto průchodu:

Kód	Název předmětu	Zakončení	Kredity
03TV	Tělesná výchova	Z	1
V bakalářské a inženýrské (magisterské) etapě si může student zapsat (maximálně 7-krát) tělesnou výchovu 03TV. Za absolvování volitelné TV získává student jeden kredit (maximálně 7 za celé studium na FEL). Nabídka sportovních odvětví je shodná s nabídkou pro 03TV1 až 4. Náplň výuky v jednotlivých sportovních odvětvích najdete na : http://www.Feld.cvut.cz/fee/K303 - oddíly tělesné výchovy			
A003TV	Tělesná výchova	Z	2
A0B03TV3	Tělesná výchova 3	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TV4	Tělesná výchova 4	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TV5	Tělesná výchova 5	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TV6	Tělesná výchova 6	Z	1
Cílem výuky tělesné výchovy je zdokonalit a rozšířit pohybové dovednosti získané na školách nižších stupňů , získat vědomosti z oblasti kinantropologie, hygieny, rehabilitace.Významný je také přínos k formování zdravého životního stylu studentů a kompenzace sedavého způsobu zaměstnání jako součásti boje proti civilizačním chorobám. Ústav tělesné výchovy a sportu nabízí v rámci výukových programů tato sportovní odvětví: aerobik, aikido, basketbal, beach volejbal, badminton, bowling, bruslení, budo, florbal, fotbal, frisbee, futsal, golf, in line bruslení, kanoistiku, karate, kondiční posilování, lední hokej, lezení na stěně, lukostřelbu, lyžování, ninjitsu, plavání, softbal, spinnig, squash, stolní tenis, tenis, turistiku, volejbal a zdravotní TV. Student si vybírá jedno z uvedených odvětví dle svého zájmu a kapacitních možností zvoleného sportu.			
A0B03TVKL	Tělovýchovný kurz letní	Z	1
Student je povinen absolvovat letní nebo zimní TV kurz. Cílem kurzů je zdokonalení pohybových dovedností v některých sportech. Letní kurzy - herní (basketbal,fotbal,frisbee,nohejbal,softbal,tenis,volejbal), turistické (cyklistické,kanoistické,pěší,vysokohorské), specializované (windsurfing).			
A0B03TVKZ	Tělovýchovný kurz zimní	Z	1
V prvním roce bakalářské etapy je student povinen absolvovat jeden z TV kurzů (zimní nebo letní). Obsahem kurzů je zdokonalení pohybových dovedností v některých sportech. Zimní kurz - výcvik v běžeckém lyžování, výcvik ve sjezdovém lyžování, snowboarding.			
ABAP20	Bakalářská práce - Bachelor thesis	Z	20
Samostatná závěrečná práce bakalářského studia komplexního charakteru. Téma práce si student vybere z nabídky témat souvisejících se studovaným oborem, která vypíše oborová katedra či katedry. Práce bude obhajována před komisí pro státní závěrečné zkoušky.			
AE0B01LAA	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LAA			

AE0B01LAG	Linear Algebra	Z,ZK	7
This course covers introductory topics of linear algebra. The main focus is on the related notions of linear spaces and linear transformations (linear independence, bases and coordinates) and matrices (determinants, inverse matrix, matrix of a linear mapping, eigenvalues). Applications include solving systems of linear equations, geometry in 3-space (including dot product and cross product), and solving linear differential equations. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LAG			
AE0B01LGR	Logic and Graph Theory	Z,ZK	6
The course covers basics of logic and theory of graphs. Propositional logic contains: truth validation, semantical consequence and tautological equivalence of formulas, CNF and DNF, complete systems of logical connectives, and resolution method in propositional logic. In predicate logic the stress is put on formalization of sentences as formulas of predicate logic, and resolution method in predicate logic. Next topic is an introduction to the theory of graphs and its applications. It covers connectivity, strong connectivity, trees and spanning trees, Euler?s graphs, Hamilton?s graphs, independent sets, and colourings. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01LGR			
AE0B01MA1	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B01MA1			
AE0B01PSI	Probability, Statistics, and Theory of Information	Z,ZK	6
Basics of probability theory, mathematical statistics, information theory, a coding. Includes descriptions of probability, random variables and their distributions, characteristics and operations with random variables. Basics of mathematical statistics: Point and interval estimates, methods of parameters estimation and hypotheses testing, least squares method. Basic notions and results of the theory of Markov chains. Shannon entropy, mutual and conditional information, types of codes. Correspondence between entropy and the optimal code length. Information channels and their capacity, compression.			
AE0B02AKA	Acoustic Applications	KZ	4
Lecture summarize applications in physical acoustics, room and building acoustics, environmental acoustics, noise and vibration control, physiological acoustics, diagnostics, and ultrasound. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B02AKA			
AE0B02BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination.			
AE0B02FPL	Solid State Physics	Z,ZK	5
Elementary physics of solids for students of electrotechnology. Dwescription and classification of solids. Thermal properties of solids. Types of bonds in solids. Real crystals, their defects and surfaces. Electrons in solids, the band structure, electrons and holes. Metals, semiconductors, insulators. Transport phenomena, generation and recombination of minority carriers. Magnetism, magnetic properties of solids. Optical phenomena in solids, luminiscence, stimulated emission.			
AE0B02POS	Scientific View of the World	Z	2
Scientific view of the world in broader relations to human knowledge, philosophy and culture. The subject motivates an interest in new and open problems and deeper philosophical connections. Racionality, mathematics, physics Space-time, gravitation. Structure and evolution of the Universe. Quantum phenomena and their philosophical aspects. Deterministic chaos, fractals. Information and entropy. Evolution, evolution of man. Technology and perspectives.			
AE0B02ZIP	Environmental Science	ZK	2
Attention is devoted to the basis of ecology, to the growth of human population, to the capitalization of energy and to other resources of the biosphere. The pollution of water, soil, and air together with a waste treatment is evaluated. The impact of mechanic, electric, magnetic fields and chemical components to environment is also discussed. Economy, law and morality in relation to environment are dealt with. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B02ZIP			
AE0B13BAP	Bachelor Project	Z	20
Independent final project for the Bachelor's degree study program. 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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination.			
AE0B13EKE	Ekologie pro elektrotechniky	Z,ZK	4
Influence of the industrial production on the environment. Sources of gaseous and solid exhalation, pollution of effluents waste, sources of outlet and raw materials. Industrial technology from the ecological point.Degradation influence of environment. Technology of waste processing. Ecological management. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13EKE			
AE0B13ETM	Electrotechnical materials	Z,ZK	4
The main material characteristics as conductivity, permittivity, magnetic susceptibility etc. and their relations to the composition and structure are explained. The subject is concentrated namely on the metal conductors, semiconductors, dielectrics, magnetics and superconductors. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13ETM			
AE0B13KEO	Construction of Electronic Circuits	Z,ZK	4
Printed circuit boards and modular constructions. Single sided, double sided and multi-layer boards. Through-hole and surface mount technologies. Designing printed circuits patterns. Passive and semiconductor components for electronic circuits. Manual and automated assembly. Soldering techniques. Testing of printed circuit boards during the manufacturing.			
AE0B13MTE	Materials and technology for electronics	Z,ZK	4
Ability of creative application of materials in electronics is extended in the field of technology of their processing and the change of the properties of materials during their exploitations in electrical circuits, microelectronics, optoelectronic applications, sensors, actuators, superconductors, semiconductors, magnetic structures, and special applications. The processing technologies and the ageing processes are based on the relationships between composition, internal structure, and properties of materials. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B13MTE			
AE0B13NNT	Nanotechnology	Z,ZK	4
The course is under way of essential convergence of the nano-bio-info fields in nanoscale. The lectures are focused on the characterization of nanostructures, growth of fractals and nanostructures and self-assembly of nanostructures, top-down and bottom-up processes, nanomaterials like nanotubes and graphene, application in nano-electro-mechanical systems, new materials, medicine, new sources of energy, and bio-inspired nano-structures like atificial tissues. Effects of the nanoscale onto sintering processes and plasma treatmets of materials are discussed.			
AE0B13PTE	Advanced technology in electrical engineering	Z,ZK	5
The topic of subject is oriented on selected materials and technics which are offering a new properties and facilities to electrical products.New superconductive materials,special pure polymers and their composites,materials with memory of form,inteligent polymers,materials and structures based on nanoparticles.Selected types of beam technics and their use in practice.			
AE0B13SPE	Welding and Soldering in Electrotechnics	KZ	4
Předmět se zabývá současnými metodami svařování a pájení kovů, zejména s ohledem na aplikace v elektrotechnickém průmyslu a mikroelektronice. Jsou prezentovány metody svařování plamenem, obloukovému svařování obalovanou elektrodou, WIG, MIG, MAG, laserovému svařování, plasmovému svařování, svařování elektronovým svazkem, odporovému a vf svařování. Zvláštní pozornost je věnována technologii pájení a wire bondingu. Praktická cvičení poskytují základní kurz svařování elektrickým obloukem.			
AE0B14AEE	Automotive Electrical and Electronic Engineering	Z,ZK	4
Operational conditions for vehicle electronic equipment. Vehicle power sources. Laboratory training is oriented on practical measurement of basic assemblies and elements in vehicle equipment. Visit to the ŠKODA AUTO factory in Mladá Boleslav is included.			
AE0B14BAP	Bachelor Project	Z	20

AE0B14SPP	Drive Sensors	Z,ZK	4
Electric and non-electric quantity sensors for drives, Basic sensors types - physical principles. Theoretical fundamentals, practical choice of suitable sensor, sensor output electrical circuit, sensor output signal processing, digital signal processing and noise suppression. Sensor output signal time characteristics and frequency characteristics. Practical lab verification of theoretical principles			
AE0B14TDO	Technical Documentation	KZ	3
In the subject TECHNICAL DOCUMENTATION students are acquainted with creation and defending of graphical and text technical documentation and with professional presentation in electro technical projects and design. Students are taught to fundamentals of technical drawing (projection methods, representation, sectional views, dimensioning, qualitative parameters etc.), to technical standards, to creation of graphical documentation in electro-technical branches, to creation of technical text documentation. In one half of seminars are students acquainted with basics of the graphic editor AutoCAD Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B14TDO			
AE0B14TME	Engineering mechanics	Z,ZK	4
This subject provides knowledge of applied mechanics for the industry practice. Analysis of constructional elements and their dimensioning. Kinematics of simple mechanisms. Dynamic behaviour of mechanical systems, mechanic vibrations. Thermodynamics of real gases and vapours, their processes an cycles, basic comparative cycles of heat machines. Fundamentals of hydrodynamics, transport losses in hydraulic systems.			
AE0B15BAP	Bachelor's thesis	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15BAP			
AE0B15EIN	Electrical Installations	Z,ZK	4
Basic design of electrical power circuit-wiring in housing and industrial building, wires dimension, introduction to protection and wire grounding in distribution point - low voltage and high voltage.			
AE0B15PES	Power Systems Operation	Z,ZK	5
The subject deals with legislative and technical conditions of electrical power systems operation. It covers systems operation at all voltage levels, basic system quantities control at both supply and consumption side, system dispatching control. It also informs about systems interconnection and extraordinary states. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B15PES			
AE0B15VNZ	High-voltage Testing	Z,ZK	4
The aim of the subject is the introduction of metrological system and testing procedures in the field of high voltage techniques. It brings overview of modern diagnostic methods that are applied in electrical power systems. The subject opens questions in evaluation and interpretation of test results from the application of diagnostic methods and high-voltage tests.			
AE0B16BAP	Bachelor project	Z	20
AE0B16EPD	Business economics	KZ	4
AE0B16ET1	Ethic	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 human 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.			
AE0B16FI1	Philosophy I	KZ	4
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 with recent problems of science, technology, economics and politics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16FI1			
AE0B16HI1	History I	KZ	4
The main purpose of this subject is to provide a historical overview and explanation of rises and developments of mass movements and totalitarian states in 20th century. The course is based on political and econom-social history with attention to philosophic and psychlogic connections.			
AE0B16HT1	History of science and technology 1	KZ	4
This subject provides basic information on the development of science and technology in the world and at home from the earliest times to the present. The course is aimed primarily at explaining the significance of key levels of technology development, industrial revolutions and their impact on society. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16HT1			
AE0B16MPS	Psychology	Z,ZK	4
Psychology of personality. Industrial and organizational psychology. Psychology in human resources management. Workgoups and teams, roles and competencies. Psychology in sales, consumer behavior analysis, psychology in marketing. Personality of a manager and leader. Time management, planning, delegation. Corporate culture.			
AE0B16PRS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B16PRS			
AE0B17BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Bachelor, s projects are oriented into microwave technique, antennas, propagation, optoelectronics, EMC, medical applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B17BAP			
AE0B17MTB	Matlab	KZ	4
Students will learn how to efficiently use both basic and advanced Matlab functions, including graphic user interface design. Emphasis will be put on problem analysis and implementation, understanding Matlab documentation, debugging user-defined functions and independent work with Matlab (proved by work on the project). Knowledge acquired can be applied to a broad spectra of courses taught at FEE (processing labs, final projects) and can be used in future professional career.			
AE0B31BAP	Bachelor Project	Z	20
The subject Bachelor Project is an independent final project for the Bachelor's degree study programme. A student will choose a topic from a range of topics related to his or her field of study, which will be specified by branch department or branch departments. The Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B31BAP			
AE0B31ZZS	Basic Signal Processing	Z,ZK	4
The introductory subject to the study of Digital Signal Processing. The main emphasis is focused on the interpretation and acquirement of the basic principals. Practical approaches and real examples from different areas (music, biomedical engineering, speech processing communication systems) are used. The program system MATLAB is used for the tasks solution, which offers comfortable and user friendly environment with graphical and sound outputs and allows digital signal processing in different formats.			
AE0B32BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B32BAP			
AE0B33BAP	Bachelor Project	Z	20

AE0B34BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B34BAP			
AE0B35BAP	Bachelor Project	Z	20
AE0B35SPS	Computer Systems Structures	Z,ZK	6
The subject introduces into basic hardware structures of computer systems, into their design and architecture. It explains technical background of classic computer systems but also special computer for digital and logic control. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B35SPS			
AE0B36APO	Computer Architectures	Z,ZK	6
Subject provides overview of basic building blocks of computer systems. Explanation starts from hardware side where it extends knowledge presented in the previous lectures of Structures of computer systems. Topics cover building blocks description, CPU structure, multiple processors interconnections, input/output subsystem and basic overview of network and buses topologies. Emphasis is placed on clarification of interconnection of hardware components with software support, mainly lower levels of operating systems, device drivers and virtualization techniques. General principles are more elaborated during presentation of examples of multiple standard CPU architectures. Exercises are more focused on the software view to the contrary. Students are lead from basic programming on CPU level to the interaction with raw hardware. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36APO			
AE0B36BAP	Bachelor Project	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36BAP			
AE0B36PR1	Programming 1	Z,ZK	6
The aim of the course is to teach the students: basic interactions with user interface and to program development system, introduction to JAVA, basic control flow structures and data structures, functions, arrays, object-oriented programming concepts, streams and files. The students are able to construct and debug a simple program in Java. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PR1			
AE0B36PR2	Programming 2	Z,ZK	6
The course moves along the understanding of programming skills from Programming 1, the aim is to design an interactive application with a graphic user interface (GUI), with knowledge of polymorphism abstract classes, interfaces, events handling, applets, user libraries, library practical application. Further students continue by the comparative way in getting acquainted in C language on the base of Java language, dynamic memory management, students are able to analyze the simple programs in C language. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PR2			
AE0B36PRI	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B36PRI			
AE0B37BAP	Bachelor Project	Z	20
Independent final project for the Bachelor'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 Bachelor's project will be defended in front of the board of examiners for the comprehensive final examination. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B37BAP			
AE0B38APH	FPGA Applications	KZ	5
After the short introduction into structure and technology of programmable circuits (especially the CPLD and FPGA), the lectures are devoted to the VHDL and its usage for simulation and synthesis of digital circuits. Laboratories are focused on CPLD and FPGA circuit applications and on the used of SW instruments for programmable hardware design and simulation. Within the larger project implemented in the second part of laboratories a complete device (system on the chip) is implemented in the FPGA or CPLD circuit. Students may choose from the list of project or they can bring their own (even a group projects are possible). Development boards with FPGA (or CPLD) are available. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38APH			
AE0B38BAP	Bachelor Project	Z	20
AE0B38LPT	Aircraft Instrumentation	Z,ZK	5
The course deals with theory and description of function of aircraft's low frequency instruments and systems. Students test them and measure their parameters in laboratory courses.			
AE0B38OCP	Circuits of Digital Instruments	Z,ZK	5
Basic types of circuits and blocks of digital measuring instruments are described and analysed. Range and linearity for analogue circuits and interfaces for digital circuits are analysed in detail. Finally, individual projects including block design, model realisation and parameters verification are solved. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38OCP			
AE0B38PSM	Programming Data Acquisition Systems	KZ	5
A subject deals with modern data acquisition systems (DAQ) being used in laboratory and industrial environment. Lectures are focused on detailed description of DAQ systems properties, software development and typical laboratory and industrial applications. Assigned software tasks in laboratories are solved using C/C++ language or LabVIEW environment.			
AE0B38SES	Sensor Networks	Z,ZK	5
The course introduces the fundamentals of sensor networks (primarily wireless sensor networks). Emphasis will be placed on distributed data processing in sensor networks and differences between sensor and computer networks. Laboratory exercises enable an implementation of small sensor network for real application in the frame of individual student project. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B38SES			
AE0B39BAP	Bachelor Project	Z	20
http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B39BAP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE0B39BAP			
AE1B01MA2	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B01MA2			
AE1B02FY1	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 2. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B02FY1			
AE1B02FY2	Physics 2 for EEM	Z,ZK	4
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. The knowledge gained in this course will help to students in the study of such modern disciplines as measuring technique, propagation of electromagnetic waves, electroacoustic or optical communications and will allow them to understand the principles of novel technologies and functioning of new electronic devices. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B02FY2			

AE1B13MVE	Materials for Power Electrical Engineering	Z,ZK	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13MVE			
AE1B13PPS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13PPS			
AE1B13SVS	Solar Energy Application Systems	Z,ZK	5
Solar energy. Photo-thermal phenomena.Photo-thermal power stations. Photovoltaic phenomena. Photovoltaic cells and modules and their characteristics. Photovoltaic systems and their applications. Significance, economic and environmental aspects of solar energy exploitation. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13SVS			
AE1B13VST	Technologies in Electrical Engineering	Z,ZK	6
Production systems in electrical engineering will be characterized, their arrangement and basic technologies for mechanical joints and plastic parts. 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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B13VST			
AE1B13VVZ	Manufacturing of Power Devices	Z,ZK	6
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.			
AE1B14MIS	Microprocessors for Power Systems	Z,ZK	5
Power electronics control computer structure, digital signal processor and ALU added features for fast real time calculations. Interrupt system and DMA system, analog signal measurement, fast impulse signal measurement, fast impulse generation support, inter-computer communication, system and power management, programming languages for power systems software development, programming techniques, software development tools (simulators, emulators, monitors), input signal conditioning circuitry, conversion from analog signals to digital processing, time sampling, amplitude quatization, power electronics control block design and implementation, difference equations and control algorithms, fixed and floating point calculations, debugging methods, program parametrization, guides and rules for implementation and application of power system control computers. Real time operating system, scheduler, dispatcher and another features and guides for application Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14MIS			
AE1B14PO1	Electric Drives and Traction 1	Z,ZK	6
Application of motion equation in drives, the motor torque, the load torque, the dynamical torque. Operating modes, electromechanical transient effects. Drives with DC motors, induction motors, synchronous motors, SRM, EC motors, linear motors. For each type its properties, speed control strategy and block scheme of a controller, range of application. Drive control computer structure, shared resources organization, special hardware blocks for signal measurement and signal generation in drives, programming techniques and languages for software development and debugging, migration from analog signal processing to the digital signal processing, time sampling and amplitude quantization, aliasing, difference equations and digital control algorithms. Drive commissioning Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14PO1			
AE1B14SEM	Seminar on Electrical Engineering	Z	2
School play, how acquaint with used electrotechnics from production - sources after as much as consumption - electrical drive, drive data processing and their presentation. Exhibits simulated exercises electrotechnic experiments after as much as excursion with real demonstration industrial process and remote monitoring operating mode Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14SEM			
AE1B14SP1	Electric Machinery and Apparatus 1	Z,ZK	5
Electric drive and its components. Electromechanical energy conversion. Rotational converters - DC machines, induction motors, synchronous generators and motors. Special electric machines, actuators. Static converters - transformers. There are presented operational principles, main constructional scheme and characteristics, applications. Switching theory. Interaction between turn-off switch and switched circuit. Basic theory and characteristic of electric arc. Transient recovery voltage. Switching overvoltage. Low voltage protection apparatuses Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14SP1			
AE1B14VE1	Power Electronics 1	Z,ZK	5
Power semiconductor devices, their serial and parallel connection, voltage and current dimensioning, point-to-point and bridge rectifiers, reversible rectifiers, control pulse generators, AC/AC and DC/DC converters, voltage source inverters, current source inverters, resonance inverters, frequency converters, matrix converters, principles of electromagnetic compatibility, cooperation of power semiconductor converters with DC and AC motors, survey of power semiconductor converters application in engineering practice Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B14VE1			
AE1B15EN1	Power Engineering 1	Z,ZK	5
The subject provides basic knowledge about the CR power system structure and operational characteristics and electrical power systems. Then it informs about the electric strength of insulators, machines and other power system devices. It presents knowledge about damaging phenomena of insulation systems and procedures for their elimination. It enables to meet insulation systems testing and diagnostics problems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN1			
AE1B15EN2	Power Engineering 2	Z,ZK	6
The subject is focused on the task of electrical energy transmission and distribution. It introduces particular components of electrical systems and their electrical parameters. It explains steady and failure states in ES and other transient events. It explains principles of electrical devices protections, dimensioning principles and electrical stations realization in the transmission and distribution system. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN2			
AE1B15EN3	Power Engineering 3	Z,ZK	5
The aim of the course is to become students acquainted with heat transfer laws, the design and use of resistive, dielectric, induction and arc electro-heat devices, thermal comfort of human being, heating of interiors and examples of particular problems of electro-heat devices design and calculations. The next part of the course acquaints students with basics of photometry, light measurement, light sources, luminaires and fundamentals of indoor and outdoor lighting. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15EN3			
AE1B15MAA	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B15MAA			
AE1B16EKP	Business Economics	Z,ZK	5
Targets and function of business, corporation life cycle. Cost classification, cost calculation, cost curves. Profit, production, price and cost relation. Taxes. Financial calculus and investment decision-making. Business plan. Management functions, corporation organizational schemes. Processes and firm management.			

AE1B16MME	Macro 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.			
AE1B16PAP	Business Law	Z,ZK	5
Introduction to Legal Terminology. Legal Regulation of Business in the Czech Republic. Legal Regulation of Business in European Union and legally binding Regulation for business subjects in the Czech Republic. Basic legal Regulations concerning Business Activities. Introduction to Commercial Law, commercial law obligation relationships, business entities, co-operatives, public control. Introduction to Civil Law, civil law obligation relationships, personal entities and legal entities, analogy of law, public control. Introduction to Trade Law, rights and duties of businessmen, business trade operation, commencement and types of trade authorization, public control. Introduction to Labour Law, labour law relationships, types of contractual relationships, public control. Protection of the competition. Enforcement of Law and executive proceedings.			
AE1B16RIP	Project management	KZ	5
Bases of project management. Project Development Cycle. Project planning. Team project management. Information system of project management. Software support for planning and project management.			
AE1B17EMP	Electromagnetic Field	Z,ZK	5
This course gets its students acquinted with principles and applied electromagnetic field theory basics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B17EMP			
AE1B31EOS	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 ?). Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B31EOS			
AE1B37KEL	Communication and Electronics	KZ	4
The purpose of the subject is acquiring fundamental knowledge of related themes of communication and electronics. First, the students are introduced to fundamentals of communication, the most important analog and digital modulations, and basic conception of radio systems. Second, students give information about basic elements, connections, and function blocks of electronics. The last part of the subject is devoted to explication of fundamental circuits of radio engineering. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B37KEL			
AE1B38EMA	Electrical Measurements and Instrumentation	KZ	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE1B38EMA			
AE2B01MA3	Multidimensional Calculus	Z,ZK	6
The course covers an introduction to differential and integral calculus in several variables and basic relations between curve and surface integrals. We also introduce function series and power series with application to Taylor and Fourier series. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B01MA3			
AE2B02FY1	Physics 1 for KME	Z,ZK	4
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 2. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B02FY1			
AE2B02FY2	Physics 2 for KME	KZ	3
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. Relativistic mechanics, quantum mechanics and nuclear physics will complete the student´s general education in physics. The knowledge gained in this course will help to students in the study of such modern disciplines as measuring technique, propagation of electromagnetic waves, electroacoustic or optical communications and will allow them to understand the principles of novel technologies and functioning of new electronic devices. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B02FY2			
AE2B13PEL	Industrial Electrical Engineering	Z,ZK	5
A student will, at first, meet with information about basic types of materials for electrical engineering, their properties, technologies and applications. The next task is focused on the fundamentals, function and service characteristics of transformers, power electronic converters, generators, DC and AC motors and contact electric apparatus. The problems are tested on the mains supply real units. The third part of the course deals with power electrical engineering, with the basic characteristic of a power system in the Czech Rep. and with types, operational modes and environmental impact of different types of power sources.			
AE2B17EPV	Electromagnetic Field, Waves and Lines	Z,ZK	5
This course presents fundamentals of electromagnetic field theory and its applications. Analysis methods proper for static, stationary as well as dynamic fields and waves in free space and on basic transmission lines are presented as well. This course provides students with physics - based wiev on studied effects, which is applied then on engineering problems. At the end of the course, all effects should not only be described, but quantified as well. Basic knowledge and insight into communication devices, systems and techniques is provided, applicable not only to systems currently taught in other courses, but to future systems as well. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17EPV			
AE2B17OKS	Optical Communication Systems	Z,ZK	6
The main aim of the subject is to introduce principals of the optical system theory. The subject includes theoretical background of optics, practical skills for design of optical systems with utilization of professional software. Moreover it incorporates electron optics, matrix optics, Gaussian beams, transition through optical components, absorption and dispersion, optical transmitter and receiver, detection, fundamental technology and measurement of optical waveguides. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17OKS			
AE2B17PMS	Fixed and Mobile Wireless Links	Z,ZK	6
The goal of the course is to provide basic knowledge of the wireless transmission in real environments for specific applications, namely for the needs of the planning of wireless radio links. The key topics include: the wireless transmission, the link budget for various types of radio links, antenna parameters, basic types and applications of antennas, propagation of radio waves in the atmosphere for specific frequency bands and telecommunication services, propagation models for planning of fixed an mobile links for both terrestrial and satellite services, the interference and frequency planning, basics of cellular networks, ITU-R recommendations. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17PMS			
AE2B17VFM	Radiofrequency Measurement	Z,ZK	6
The subject guides students to gain both theoretical and practical skills in radiofrequency and microwave measurements. It is focused on measurement methods and instruments applied e.g. in telecommunication, radio, radar, cable network, navigation, and other systems working in frequency band from units of MHz to 50GHz, thus from classical radio to microwave area. Students are informed about basic principles and construction of generators, synthesizers, frequency counters, vector generators, spectrum, signal, scalar and vector			

analyzers and their applications in various measurement methods. Theoretical knowledge from lectures are supplemented by practical measurements in laboratories equipped with modern instruments applied in current professional practice. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17VFM

AE2B17VMT	High Frequency and Microwave Technique	Z,ZK	6

Goal of the lectures is to explain to students basic principals of rf. and microwave circuits, both passive and active (e.g. attenuators, couplers, isolators and circulators, modulators, oscillators, mixers and amplifiers). In conclusion to subjects on theory of EM fields a topics of transmission lines and waveguides (e.g. microstrip line, coplanar line, circular, , H and dielectric waveguide) and resonators (a section of transmission line, cavity, open, dielectric) are described Further a circuit analysis based on scattering parameters is being explained. Basic applications of rf. and microwave circuits are being discussed. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B17VMT

AE2B31ANO	Analog Circuits	Z,ZK	5

The course is designed to acquaint students with the basics of analog electronic circuits. The first part is devoted to fundamental transistor amplifiers and elemental structures of analog integrated circuits. Then the typical applications of operational amplifiers are introduced, including non-linear networks and basic frequency filter design and implementation. Problems of oscillators are discussed at the conclusion. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B31ANO

AE2B31HPM	Hardware for Multimedia	Z,ZK	6

Subject provides concise basic overview of hardware used in multimedia (MM). It however does not try to achieve an encyclopedic completeness - instead of it, detailed analysis is carried out for selected blocks containing interesting technical solutions and more general principles. The main focus is specialization of digital function blocks for processing of MM data. Analog circuits are described manly as a complement to digital core. Frequent examples of MM data are used to illustrate functions of individual HW blocks.

AE2B31SMS	Multimedia signal synthesis	Z,ZK	6

This course introduces the fundamentals of sound synthesis algorithms (everyday, music and speech), digital audio effects and sonification. Multimedia synthetic signals are used in modern digital systems, virtual reality systems, computer animations, games and film. Understanding of theoretical concepts will be consolidated through practical programming assignments in Matlab.

AE2B31ZEO	Fundamentals of Electrical Circuits	Z,ZK	5

The subject describes fundamental methods of electrical circuit analysis. After a brief introductory part where the difference between an electrical device and its models is introduced, the basic ideal passive and active circuit elements are then defined. Next, basic circuit quantities are defined; lectures are then focused on important laws and methods of analysis of electrical circuits. Circuit theorems, an analysis of DC circuits, AC circuits, first-order and second-order circuits are described. Finally, a brief description of more sophisticated methods of analysis (Laplace transform, pulse excitation) is done. The seminars are focused on getting a theoretical experience in analysis of electrical circuits, supplemented with simulations and simple measurement. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B31ZEO

AE2B32DAT	Data networks	Z,ZK	5

The course introduces students to the basics of communication in a variety of data networks. The aim of the course is to provide a more comprehensive view of communication protocol for specific types most commonly used data networks according to the RM-layer OSI model. The course also allows students to look into ways of communicating with TCP/IP in the Internet, including the possibility of a practical realization of the data network in laboratory conditions using real equipment. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32DAT

AE2B32PPS	Network Planning and Operation	Z,ZK	6

The subject expands knowledge obtained in precedent studies on such issues as network planning, network design, network constructions and network operation. The attention is further given to the legislation in telecommunications and to the business aspects of telecommunications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32PPS

AE2B32PSS	Transmission Systems and Networks	Z,ZK	6

The communication systems are presented in wide area network context. The optical technology in backbone networks is dominant segment of the subject. The transmission and multiplexing of the digital signals are primary part of the subject, the reliability, distribution of clock, management, monitoring and design of the network are secondary part of the subject. The students can use theoretic knowledge in practice while working on the model project of transmission network.

AE2B32SOS	Network Operating Systems	Z,ZK	6

Network operating systems, Linux, Unix. Administration and network tools, managing and administration of documentation. The graduates will be informed about basic conception and procedures in operating systems administration (UNIX) and gain the basic facility in operating systems configuration based on the x 86 platforms. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B32SOS

AE2B32TSI	Telecommunication Systems and Networks	Z,ZK	6

The subject discusses principles of telecommunication systems - mainly digital transmission systems and digital switching systems. The subject will provide students with the overview of the entire telecommunication domain, so that they can solve particular problems related to network traffic. They will also obtain basic knowledge of technologies that are used in modern wired and wireless networks. Results of the survey (students' opinions) concerning the subject can be found here: https://www.fel.cvut.cz/cz/anketa/aktualni/courses/AE2B32TSI

AE2B34ELP	Electron Devices	Z,ZK	5

This course introduces the basic theory, principles of operation and properties of electron devices. Physical principles of operation, device structures and characteristics are explained together with adequate models for small- and large-signal. Basic applications in analogue and digital electronics are examined. In seminars and labs, students are introduced to basic principles of device simulation, measurement of device characteristics and extraction of device parameters. Operation of electron devices in electronic devices is then analyzed using the PSpice simulator. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34ELP

AE2B34IAE	Smart Electronics	Z,ZK	6

The aim of the course is to show and present to the students the modern trends used in electronics design. It will practically show the usage of electronic devices, circuits and functional blocks. Typical methods, errors and mistakes during the design process flow will be shown.During the exercises students will design a concept and select appropriate electronic components for circuit realization. Simulation software will help to compare the designed circuit with the realized one. Evalution boards with complete software support from STMicroelectronics will help the students to understand the basic function of presented integrated circuits. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34IAE

AE2B34MIK	Microcontrollers	Z,ZK	6

The goal of this course is to make students acquainted with recent interesting applications, smart sensors circuits and peripherals handled by microcontrollers. In a lab students will program their own application and measure its properties. Because of usage of a programming language C it will be possible to focus on the practical part of the realization.

AE2B34OFT	Optoelectronics and Photonics	Z,ZK	6

The subject describes the basic principles and application of the novel devices for modern optical systems. Students will obtain the basic knowledge in fundamental functional principles of the waveguide optics and optoelectronics, semiconductor lasers and LEDs, semiconductor light detectors, principles of waveguide optics, structures and components for distribution and harnessing of optical radiation, integrated optical circuits and optical sensors. Recent trends in advanced optical communication systems, optical amplifiers, optical multiplexing systems with their components are also mentioned. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34OFT

AE2B34SEI	Sensors in Electronics and Informatics	Z,ZK	6

The subject describes basic physical, electronic as well as optoelectronic behaviours using in sensors and microsensors, static and dynamic parameters, improvement of parameters, sensor data processing, intelligent sensors, applications of basic principles in sensors (temperature, pressure, optoelectronic and fibre optic, radiation, chemical, mechanical, level, flow, ultrasound, etc.). There are showed principles and applications of MEMS and microsystems in the subject. Principles are demonstrated on actual sensor datasheets and applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B34SEI

AE2B37KMM	Communication and Measurement in Multimedia	Z,ZK	6
The aim of the subject is to give basic overview of present and perspective communication systems, mainly in relation to signal transmission and measurement. Lectures and practices make students familiar with technical principles of systems, basic conception of transmitter and receiver and measurement of these systems. Subject is focused on multimedia systems; it means systems for voice, audio, video and generally data transmission. Practices are based on laboratory measurements.			
AE2B37MMT	Multimedia Technology	Z,ZK	6
This course is the introduction to multimedia technology (audio and video). It overviews sound and picture acquisition, signal processing, transmission and distribution, recording and reproduction including physiology of hearing and vision. It provides fundamental information for understanding the main principles for system solutions in the field. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37MMT			
AE2B37ROZ	Radio Circuits and Devices	Z,ZK	6
The goal of the subject is to inform the students about properties, parameters, and design methodology of radio circuits, radio function blocks, and more complex blocks of radio transmitters and receivers. The lectures are devoted sequentially to elements, circuits, function blocks, and systems which are used at radio frequencies. The exercises are both seminar and laboratory; the seminars are devoted the basic calculations from the area of the radio function blocks, and the measurements are devoted to both basic function blocks and more complex problems from the area of radio transmitters and receivers. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37ROZ			
AE2B37ZST	Principles of Studio Technology	Z,ZK	6
The course gives basic knowledge of elements and systems used in television and radio professional and semiprofessional studio technology and of technology of radio and television production and broadcasting. Laboratory exercises are situated in a small school studio and are completed with professional excursions. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B37ZST			
AE2B38EMB	Electrical Measurements and Instrumentation	Z,ZK	5
Methods of measurement of electrical physical quantities (voltage, current, power, frequency, resistance, capacitance and inductance) are explained together with principles of their correct application and accuracy estimation. The course is closed by presenting information of several basic electronic measuring instruments and explaining fundamentals of magnetic measurements and basic information concerning measurement systems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B38EMB			
AE2B99DIT	Digital Engineering	Z,ZK	5
In this course, students will learn design principles for combinational and sequential digital circuits, using TTL components as well as field programmable gate arrays. The functional design using standard mathematical description and VHDL will be used for designing and realization of various digital circuits. The laboratory classes will be arranged as a set of laboratory tasks and practical examples. Some laboratory lessons will be focused on VHDL and its application for realization of basic digital circuits using FPGAs, their simulations and emulations as well as creating more advanced digital blocks.			
AE2B99KAM	Communication and Multimedia	Z	5
The subject is focused on an introduction of 1st term students (Bc. study) to the field of communication and multimedia technology and electronics. This field is very broad and offers to students multidisciplinary (interdisciplinary) education. At the beginning of study it is important to inform students about different parts. The task is to do it in popular and acceptable form and show the most important parts of this very broad industrial and research branch. The area is covered by five departments providing educational and research inputs. This interdisciplinary subject demonstrates as an introduction to study expected job opportunities in IT, assistive, biomedical and other technologies. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B99KAM			
AE2B99KOS	Communication Systems	Z,ZK	6
The subject builds on knowledge of basic types of interfaces used in telecommunications (from classic, via a packet-oriented and expected future generation system). Explains the importance of key parameters, presents tools for the monitoring and measurement methodology and fault diagnosis. Students verify acquired knowledge to practical tasks in the laboratory to real systems and advanced measurement techniques.			
AE2B99LES	Laboratory of Electronic Systems	Z,ZK	6
The objective of the subject is to inform students about potential of electronic circuit simulations. The course is based on concrete applications. Themes of the first part of the lectures are put to a test on basic circuits. Specific circuit applications follow with a detailed explanation and a simulation in exercises afterwards. Selected circuits will be checked by laboratory measurements.			
AE2B99MAA	Mathematical Applications	KZ	4
The course is designed to acquaint students with the basics work in the mathematical programs Maple and MATLAB. The first part of the course is devoted to the algebraic system Maple and its use for for solving differential and integral calculus of one variable, linear algebra and arithmetic with complex numbers. The second part of the subject is devoted to MatLab program and its application in solving computational problems in engineering practice, particularly for signal processing. Next, there is an introduction to the analysis of electrical circuits in the program Maple with PraCAn package.			
AE2B99SAS	Signals and systems	Z,ZK	5
Course explains basic terms and methods for continuous-time and discrete-time signal and system analysis. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE2B99SAS			
AE3B01MA1	Mathematics 1	Z,ZK	8
The aim of the course is to introduce students to basics of differential and integral calculus of functions of one variable. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B01MA1			
AE3B01MA2	Mathematics 2	Z,ZK	7
The subject covers an introduction to the differential and integral calculus in several variables and basic relations between curve and surface integrals. Other part contains function series and power series with application to Taylor and Fourier series. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B01MA2			
AE3B02FY1	Physics 1 for KyR	Z,ZK	6
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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B02FY1			
AE3B02FY2	Physics 2 for KyR	Z,ZK	5
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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B02FY2			
AE3B14EPR	Electric drive for automation and robotics	Z,ZK	6
Principle, philosophy and characteristics sources seat power control energy, changers for power supply small el. drive. Industrial automat used for drive el. drive. Small machinery and special electrical machine used in automatization and robots. Proposal electrical drive for automation application. Practical exhibits and check feature el. drive			

AE3B31EOP	Electrical Circuits and Elements	Z,ZK	8
The Subject deals with basic and most important principles of the electrical circuit analysis. It defines basic circuit variables and elements, and real components of actual electrical equipments. Subject deals with basic metods of the circuit analysis. It is oriented on basic thematic units of the analogue and digital technics that are necessary for the cybernetics and control technique study. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B31EOP			
AE3B33DRR	Dynamics and Control of Robots	Z,ZK	6
The subject undrestands the robot as a dynamical system. Its design, identification, control and programming will be introduced. The methods can be used for other electromechanic systems, e.g., production machines and manipulation devices.			
AE3B33KUI	Cybernetics and Artificial Intelligence	Z,ZK	5
The course will enable students to understand the basic concepts, goals and methods of cybernetics and artificial intelligence, and align some individual topics studied in the bachelor stage into the more profound context of the study program. The syllabus contains topics concerned with general aspects of systems and information theory, problem solving and state space search principles, elements of game theory, knowledge and expert systems, elements of decision theory, recognition and machine learning. The most important feature of the course is its unifying conceptual approach to many, at first sight diverse, components of cybernetics and aritifical intelligence. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B33KUI			
AE3B33ROB	Robotics	Z,ZK	6
The course introduces a robotics as an integrating discipline designing and exploring machines with high degree of flexibility and autonomy. Broader context of robotics is presented first and then kinematics and statics of robots is studied in the detail. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B33ROB			
AE3B35APE	Applied Electronics	Z,ZK	6
The main goal of this subject is acquirement of the knowledge for design of the real electronics equipments especially in area of the control systems and robotic. In comparison with analogical specialized theoretical subjects emphasis is placed on the practical application. Here the design of the schematic, choice of the suitable components, design of the printed circuit board and mechanical aspects will be explained. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B35APE			
AE3B35ARI	Automatic Control	Z,ZK	7
Foundation course of automatic control. Introduction to basic concepts and properties of dynamic systems of physical, engineering, biological, economics, robotics and informatics nature. Basic principles of feedback and its use as a tool for altering the behavior of systems and managing uncertainty. Classical and modern methods for analysis and design of automatic control systems. Students specialized in systems and control will build on these ideas and knowledge in the advanced courses to follow. Students of other branches and programs will find out that control is a inspiring, ubiquitous and entertaining field worth of a future cooperation. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B35ARI			
AE3B35MSD	Modeling and Simulation of Dynamic Systems	Z,ZK	6
Cílem předmětu je naučit se vytvářet matematické modely složitých dynamických systémů, a to sice modely použitelné coby podklad pro návrh řídicích algoritmů. Budeme se soustředit na systémy obsahující podsystémy různé fyzikální povahy. Ukážeme si, že koncept energie (či výkonu), který je univerzálně platný napříč fyzikálními doménami, je tím správný nástrojem pro spojování subsystémů elektrických, mechanických, hydraulických, ale i termodynamických. Některé poznatky a dovednosti získané v tomto kurzu však budou alespoň částečně použitelné i v oblastech, kde koncept energie není tak užitečný (systémy sociologické, ekonomické). Představíme si tři skupiny metod, které konceptu energie využívají, a to sice analytické metody pro Lagrangeovské a Hamiltonovské modelování známé z teoretické mechaniky, objektově orientované modelování coby alternativu více rozšířeného modelování pomocí blokových diagramů, a především velmi intuitivní metodiku vazebních grafů. Ať už se k matematickému modelu dostaneme jakoukoliv cestou, jedním ze způsobů jeho analýzy je simulace, tedy numerické řešení souvisejících diferenciálních či algebro-diferenciálních rovnic. V kurzu si představíme aspoň základní metody pro numerické řešení obyčejných diferenciálních rovnic s motivací získat porozumění problematice aproximačních chyb, numerické stability i vhodnosti různých metod pro různé modely.			
AE3B38DSY	Distributed Systems and Computer Networks	Z,ZK	7
Subject is devoted to principles and technologies of distributed systems (DS) and to their employment in typical applications. Physical layer media, analog and digital modulations, DS topologies, MAC methods, coding and cryptography basics are introduced. Widely used standard systems are then presented together with their features. Internet protocols are explained and internetworking approaches presented. Finally the typical industrial applications of distributed systems are introduced. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38DSY			
AE3B38MMP	Microprocessors and Microcontrollers in Instrumentation	Z,ZK	6
Applications of microprocessors and single chip microcontrollers in instrumentation techniques are presented in this course. The course is focused on describing function and programming in embedded applications.			
AE3B38PRT	Instrumentation for Data Acqusition and Proces Control	Z,ZK	6
An automation of production, quality control or research and development are based on the use of data acquisition systems. Different types of standardized systems, their parameters, programming, and applications are described here. Laboratories are pointing to the programming of frequently used systems using different developing tools. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38PRT			
AE3B38SME	Sensors and Measurement	Z,ZK	6
Basic circuits and instruments for measurement of electrical quantities, AD and DA converters, sensors focused to use in robotics and automation, intelligent sensors, methods of decreasing uncertainties. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE3B38SME			
AE3B99RO	Robots	KZ	5
AE4B01DMA	Discrete mathematics	Z,ZK	7
In this course students meet some important topics from the field of discrete mathematics. Namely, they will explore divisibility and calculations modulo n, diophantine equations, binary relations, induction, cardinality of sets, and recurrence equations. The second aim of this course is to teach students the language of mathematics, both passively and actively, and introduce them to mathematics as science. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01DMA			
AE4B01JAG	Languages, automata and grammars	Z,ZK	6
The course covers basics of the theory of finite automata and grammars: deterministic and nondeterministic finite automata, characterization of the class of languages accepting by a finite automaton and description of such a language by a regular expression. Grammars and languages generated by a grammar, context-free grammars will be emphasized. The relation will be shown between context-free grammars and push down automata. Next topic is a Turing machine and the existence of non-decidable problems. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01JAG			
AE4B01MA2	Calculus	Z,ZK	8
This is an introductory course to calculus. In the first part we study limits, continuity and derivative of real functions of one variable. Then we define the indefinite integral, discuss basic integration methods, the definite integral and its applications. We extend the discussion to real functions of more variables, partial derivatives and multiple integrals. We conclude with the study of real numerical series.			
AE4B01NUM	Numerical Analysis	Z,ZK	6
The course introduces to basic numerical methods of interpolation and approximation of functions, numerical differentiation and integration, solution of transcendent and ordinary differential equations and systems of linear equations. Emphasis is put on estimation of errors, practical skills with the methods and demonstration of their properties using Maple and computer graphics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B01NUM			
AE4B02FYZ	Physics for Informatics	Z,ZK	6
Within the framework of this course students gain the knowledge of selected parts of classical physics and dynamics of the physical systems. The introductory part of the course deals with the mass particle kinematics; dynamics, with the system of mass particles and rigid bodies. The students should be able to solve basic problems dealing with the description of mechanical systems. The introduction to the dynamics of the systems will allow to the students deeper understanding as well as analysis of these systems. The attention will be devoted			

	namely to the application of the mathematical apparatus to the solution of real physical problems. Apart of this, the knowledge gained in this course will help to the students in the study of other disciplines, which they will meet during their further studies. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B02FYZ		
AE4B14BP1	Safety in Electrical Engineering 1	Z	0
	http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BP1 Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BP1		
AE4B14BPZS	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. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B14BPZS		
AE4B33ALG	Algorithms	Z,ZK	6
	In the course, the algorithms development is constructed with minimum dependency to programming language; nevertheless the lectures and seminars are based on Java. Basic data types a data structures, basic algorithms, recursive functions, abstract data types, stack, queues, trees, searching, sorting, special application algorithms. Students are able to design and construct non-trivial algorithms and to evaluate their affectivity. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33ALG		
AE4B33DS	Database Systems	Z,ZK	6
	Database Systems, Web Applications Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33DS		
AE4B33FLP	Functional and Logic Programming	Z,ZK	6
	This course introduces students into the techniques of functional programming in the LISP (or more precisely SCHEME) and HASKELL language and logic programming in the PROLOG language. Both languages are declarative in that the programmer symbolically describes the problem to be solved, rather than enumerating the exact sequence of actions to be taken. In PROLOG, one describes the problem by specifying properties of objects and relations thereamong through logic formulas. In LISP, the problem description takes the form of function definitions. Both languages have found significant applications in artificial intelligence fields, such as agent systems or symbolic machine learning. Motivating tasks from these domains will be used throughout the course. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33FLP		
AE4B33OPT	Optimization	Z,ZK	7
	The course provides fundamentals of mathematical optimisation in finite dimensional (euclidean) spaces: linear programming incl. duality, least squares, optimality conditions for non-linear problems, convexity, basic numerical algorithms, dynamic programming.		
AE4B33OSS	Operating Systems and Networks	Z,ZK	6
	The goal of this course is to introduce basic concepts and principles of operating systems (OS), like processes and threads, their scheduling, mutual communication and synchronization, time-dependent errors and deadlocks. Attention is also paid to memory management, virtual memory, management of secondary storages, file-systems and data security. The second part of the course is focused at distributed systems (DS) principles and technologies. DS communication media and topologies are explained and the basics of Internet including specific protocols are treated as typical DS applications. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33OSS		
AE4B33RPZ	Pattern Recognition and Machine Learning	Z,ZK	6
	The basic formulations of the statistical decision problem are presented. The necessary knowledge about the (statistical) relationship between observations and classes of objects is acquired by learning on the raining set. The course covers both well-established and advanced classifier learning methods, as Perceptron, AdaBoost, Support Vector Machines, and Neural Nets. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33RPZ		
AE4B33SVP	Software or Research Project	KZ	6
	Project work. Student is expected to work independently under an advisor supervision. The topic of the project should be relevant to the major branch of the study. The work must have a clearly defined output like a technical report and/or software. More details, including project topics can be found at: http://cyber.felk.cvut.cz/study/student-projects/ The topic may also be negotiated independently. In case of doubts a discussion with the guarantor/director of the major study branch is encouraged. http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33SVP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33SVP		
AE4B33ZUI	Introduction to Artificial Intelligence	Z,ZK	6
	This course provides introduction to symbolic artificial intelligence. It presents the algorithms for informed and non-informed state space search, nontraditional methods of problem solving, knowledge representation by means of formal logic, methods of automated reasoning and introduction to markovian decision making. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B33ZUI		
AE4B36SVP	Software or Research Project	KZ	6
	http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B36SVP Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B36SVP		
AE4B39SVP	Software or Research Project	KZ	6
	Samostatná práce na problému-projektu pod vedením školitele. V rámci tohoto předmětu je možné (obvyklé) řešit dílčí problém bakalářské práce. Proto doporučujeme zvolit si téma bakalářské práce nejpozději počátkem 5. semestru a jeho včasný výběr nepodcenit. Absolovování předmětu softwarový a výzkumný projekt musí mít jasně definovaný výstup, například technickou zprávu či programový produkt, který je ohodnocen klasifikovaným zápočtem. Důležité upozornění: - Standardně není možné absolovat více než jeden předmět tohoto typu. - Výjimku může udělit garant hlavního (major) oboru. Možný důvod pro udělení výjimky je, že práce-projekt má jiné téma a je vedena jiným vedoucím. Typickým příkladem může být práce na projektu v zahraničí. Kontaktní email v případě dalších dotazů: oi@fel.cvut.cz Bližší pokyny k zadání a vypracování projektu naleznete na stránkách katedry počítačové grafiky a interakce http://dcgi.felk.cvut.cz/cs/study/predmetprojekt. Projekt je v rámci předmětu obhajován. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/A4B39SVP		
AE4B99RPH	Solving problems and other games	KZ	6
	The main motivation is to let students to deal with real-world problems properly. When working in teams on real problems the student shall learn how to decompose the big problem, how to define interfaces, how to test and validate individual steps and so on. Many problems will actually be beyond the first-year-student skills. And many problem will not be solved in the optimal way. The unsolved parts should motivate the students to study difficult theoretical subjects. They should generate the important questions. Ideally, at the end of the subject, the student should be eager to study deeper about informatics. Výsledek studentské ankety předmětu je zde: http://www.fel.cvut.cz/anketa/aktualni/courses/AE4B99RPH		

Aktualizace výše uvedených informací naleznete na adrese http://bilakniha.cvut.cz/cs/f3.html
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