Recomended pass through the study plan

Name of the pass: Branch Solid State Systems - Passage through study

Faculty/Institute/Others: Faculty of Electrical Engineering
Department:
Pass through the study plan: Otevřené elektronické systémy - Integrované elektronické systémy
Branch of study guranteed by the department: Welcome page
Guarantor of the study branch:
Program of study: Open Electronic Systems
Type of study: Follow-up master full-time
Note on the pass:

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

Coding of ways of completion of courses (KZ/Z/ZK) and coding of semesters (Z/L):
KZ - graded assesment, Z - assesment, ZK - examination, L - summer semester, Z - winter semester

Number of semester: 1

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors, **authors** and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
BEZM	**Safety in Electrical Engineering for a master´s degree** *Vladimír Kůla, Radek Havlíček, Ivana Nová, Josef Černohous, Petr Novák, Zdeněk Burian, Adam Bouřa, Pavel Mlejnek **Radek Havlíček** Vladimír Kůla (Gar.)*	Z	0	2BP+2BC	Z	P
A8M31AAS	**Advanced Analog Systems** *Jiří Hospodka, Ondřej Šubrt, Jiří Náhlík **Jiří Hospodka** Jiří Hospodka (Gar.)*	Z,ZK	5	2P+2S	Z	PO
A8M34OEP	**Planar integrated optics** *Vítězslav Jeřábek, Václav Prajzler **Vítězslav Jeřábek** Vítězslav Jeřábek (Gar.)*	Z,ZK	5	2P+2L	Z	PO
A8M34ICS	**IC Structures** *Jiří Jakovenko, Vladimír Janíček **Jiří Jakovenko** Jiří Jakovenko (Gar.)*	Z,ZK	5	2P+2C	Z	PO
A8M38ASP	**Analog Signal Processing and Digitalization** *Michal Janošek, Josef Vedral **Josef Vedral** Jan Holub (Gar.)*	Z,ZK	5	2P+2L	Z	PO
MOESVOL	**Volitelné předměty**	Min. cours. 0	Min/Max 0/999			V

Number of semester: 2

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors, **authors** and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
A8M34MST	**Microsystems** *Adam Bouřa, Miroslav Husák **Miroslav Husák** Miroslav Husák (Gar.)*	Z,ZK	5	2P+2L	L	PO
A8M38MS	**Modern Sensors** *Pavel Ripka, Antonín Platil **Antonín Platil** Pavel Ripka (Gar.)*	Z,ZK	5	2P+2L	Z	PO
A8M34NAN	**Nanoelectronics and Nanotechnology** *Jan Voves **Jan Voves** Jan Voves (Gar.)*	Z,ZK	5	2P+2C	L	PO
A8M34ICD	**IC Design** *Jiří Jakovenko, Jan Novák **Jiří Jakovenko** Jiří Jakovenko (Gar.)*	Z,ZK	5	2P+2C	L	PO
MOESH	**Humanitní předměty** *B0M16FI2,B0M16HT2,..... (see the list of groups below)*	Min. cours. 1	Min/Max 4/20			V
MOESVOL	**Volitelné předměty**	Min. cours. 0	Min/Max 0/999			V

Number of semester: 3

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
A8M36ACA	**Advanced Computer Architectures** *Pavel Píša* ***Pavel Píša*** *Pavel Píša (Gar.)*	Z,ZK	5	2P+2L	Z	PO
MOESVOL	**Volitelné předměty**	Min. cours. 0	Min/Max 0/999			V

Number of semester: 4

Code	Name of the course / Name of the group of courses *(in case of groups of courses the list of codes of their members)* *Tutors,* ***authors*** *and guarantors (gar.)*	Completion	Credits	Scope	Semester	Role
ADIP25	**Diploma Thesis**	Z	25	36s	L	P
MOESVOL	**Volitelné předměty**	Min. cours. 0	Min/Max 0/999			V

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

Kód	Name of the group of courses and codes of members of this group (for specification see here or below the list of courses)	Completion	Credits	Scope	Semester	Role
MOESH	**Humanitní předměty**	**Min. cours. 1**	**Min/Max** 4/20			**v**

B0M16FI2	Philosophy 2	B0M16HT2	History of science and technolog ...	B0M16HSD	History of economy and social st ...
B0M16MPS	Psychology	B0M16TE1	Theology		

MOESVOL	**Volitelné předměty**	**Min. cours. 0**	**Min/Max** 0/999			**v**

List of courses of this pass:

Code	Name of the course	Completion	Credits
A8M31AAS	Advanced Analog Systems	Z,ZK	5
A8M34ICD	IC Design	Z,ZK	5
A8M34ICS	IC Structures	Z,ZK	5
Student learn main design methodologies of analog, digital and optoelectronic integrated systems; Detailed description of the technological process for the IC production; CMOS technologies and its advanced sub-micron trends; IC chip topology, layout and design rules; Technology of micro-electro-mechanical systems MEMS.			
A8M34MST	Microsystems	Z,ZK	5
A8M34NAN	Nanoelectronics and Nanotechnology	Z,ZK	5
A8M34OEP	Planar integrated optics	Z,ZK	5
he subject describes theoretical and technological principles and design of planar integrated optics and optoelectronics as optical dividers, The students get acquainted with the principles of the light propagation in planar waveguide and with basic devices and structures of integrated optics and optoelectronics as coupling elements, optical microresonators, planar optical transmitters an receivers with SS-LD, WG-PD . In the course are integrated devices and structures for telecommunication for multiplexing and signal processing. There are optical elements for physical and chemical sensor application and basic important measurement and diagnostic methods.			
A8M36ACA	Advanced Computer Architectures	Z,ZK	5
A8M38ASP	Analog Signal Processing and Digitalization	Z,ZK	5
The course is dedicated to methods for preprocessing, digitalization and reconstruction of continuis signals. It is focused to the methods for achieving of high precision of transmission and suppression of spurious components. The laboratory exercises are divided into two parts: the first part is classical tasks; the second one is individual project of design of typically data acqusition system. The teaching is supported by the CAD system for measuring circuits.			
A8M38MS	Modern Sensors	Z,ZK	5
Overview of basic and advanced knowledge of sensors and extension by knowledge needed for design and development of sensor systems. The content reflects perspective principles of sensors as well as methods of complex sensor signal conditioning and processing. Sensors and sensor systems are shown in specific applications, the design procedures are shown in case studies. Labs in the first part are focused on complex characterization of sensor parameters, in the second part on independent design using FEM modeling and experimental verification.			
ADIP25	Diploma Thesis	Z	25
Independent final comprehensive work for the Master's degree study programme. A student will choose a topic from a range of topics related to his or her branch of study, which will be specified by branch department or branch departments. The diploma thesis will be defended in front of the board of examiners for the comprehensive final examination.			

B0M16FI2	Philosophy 2	Z,ZK	4
The course is oriented on the transdisciplinar aspects of philosophy, informatics, physics, mathematics and biology.			
B0M16HSD	History of economy and social studies	Z,ZK	4
This subject deals with the history of the European and Czech society in the 19th - 21th centuries. It follows the forming of the European and Czech political representation, its aims and achieved results as well as the social, economical, technical and cultural development and coexistence of the various ethnical groups.			
B0M16HT2	History of science and technology 2	Z,ZK	4
This subject traces historical developments in electrical engineering branches in the world and in the Czech Lands. Its ultimate goal is to stimulate students' interest in the history and traditions of the subject, while highlighting the developments in technical education and professional organizations, the process of shaping scientific life and the influence of technical engineers			
B0M16MPS	Psychology	Z,ZK	4
B0M16TE1	Theology	Z,ZK	4
This subject provides to students the basic orientation in christian theology and requires no special previous education. After short philosophic lecture the basic theologic disciplines are gone through. The subject is determined not only to believer students who want to know the reliable theologic grounding but also above all to ones who want to get know Christianity - religion from which graws our civilization up.			
BEZM	Safety in Electrical Engineering for a master´s degree	Z	0
The course provides for students of all programs periodic training guidelines for health and occupational safety and gives knowledge of electrical hazard of given branch of study. Students receive indispensable qualification according to the current Directive of the Dean.			

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