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Mechanical Engineering Faculty in Slavonski Brod



STUDY PROGRAM

GRADUATE STUDY: MECHANICAL ENGINEERING

Slavonski Brod, 31. March 2010.

3.1. The list of compulsory and elective subjects by modules

3.1.1. Modulated part of the graduate study

3.1.1.1. Product Design and Development

Semester I

Course	L	E	ECTS	S	Exam	Code number
Strength of Materials II	2	2	5	M	*	P 702
Design Theory	2	2	5	M	*	P 703
Computer Aided Design	2	2	5	M	*	P 712
Theory of Elasticity	2	2	5	M	*	D 904
Numerical Methods	2	2	5	M	*	D 903
Optional courses I	2	2	5	O	**	
	12	12	30		5	

Optional courses I	L	E	ECTS	S	Code number
Renewable Energy Sources	2	2	5	O	D 928
Metal Structures	2	2	5	O	D 809
Tribology of Machine Elements	2	2	5	O	P 704
Heat Transfer	2	2	5	O	D 728

Semester II

Course	L	E	ECTS	S	Exam	Code number
Ecodesign	2	2	5	M	*	D 801
Experimental Mechanics	2	2	5	M	*	D 806
Finite Element Method	2	2	5	M	*	P 705
Dynamics of Machinery	2	2	5	M	*	P 701
Optional courses II	2	2	5	O	**	
Optional courses III	2	2	5	O	**	
	12	12	30		4	

Optional courses II and III	L	E	ECTS	S	Code number
Evaluation Models	2	2	5	O	D 808
Design and Analysis of Structures	2	2	5	O	P 706
Advanced Strength of Mechanical Constructions	2	2	5	O	D 800
Thermodynamic Machinery	2	2	5	O	P 405

Interpreter abbreviation:

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Semester III

Course	L	E	ECTS	S	Exam	Code number
Industrial Design	2	2	5	M	*	D 900
Numerical Modeling and Simulations	2	2	5	M	*	D 803
Fracture Mechanics	2	2	5	M	*	D 802
Optional courses IV	2	2	5	O	*	
Optional courses V	2	2	5	O	**	
Seminary	0	4	5	M		D 911
	10	14	30		4	

Optional courses IV	L	E	ECTS	S	Code number
Design and Analysis of Experiments	2	2	5	O	D 923
New Production Technologies	2	2	5	O	D 843

Optional courses V	L	E	ECTS	S	Code number
Optimization of Structures	2	2	5	O	D 910
Theory of Plasticity	2	2	5	O	D 907
Vibration-Acoustic Analyses	2	2	5	O	D 908
Computational Fluid Mechanics	2	2	5	O	D 909
Power Plants	2	2	5	O	D 905

Semester IV

Course	L	E	ECTS	S	Exam	Code number
Product Development Design	2	2	4	M	*	D 901
Standardization and Technical Regulations	2	2	4	M	*	D 1004
Optional courses VI	2	2	4	O	*	
Optional courses VII	2	2	4	O	*	
Graduation work	0	8	14	M		D 1020
	8	16	30		4	

Optional courses VI	L	E	ECTS	S	Code number
Materials Selection and Application	2	2	4	O	D 1026
Selected Chapters of Quality Control and Quality Assurance	2	2	4	O	D 1052

Optional courses VII	L	E	ECTS	S	Code number
Transport Systems and Lifts	2	2	4	O	D 1009
Recycling and Ecological Product Providing	2	2	4	O	D 1010
Robots and Manipulators	2	2	4	O	P 606

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3.1.1.2. Manufacturing Logistics

Semester I

Course	L	E	ECTS	S	Exam	Code number
Designing of Production Systems	2	2	5	M	*	P 604
New Production Strategies and Philosophies	2	2	5	M	*	P 726
Process Planning and Modeling	2	2	5	M	*	D 780
Maintenance Strategies	2	2	5	M	*	D 1021
Computer-Aided Design	2	2	5	M	**	D 781
Tribology	2	2	5	O	**	P 752
	12	12	30		4	

Semester II

Course	L	E	ECTS	S	Exam	Code number
Materials Management	2	2	5	M	*	D 921
Computer Aided Process Planning and Manufacturing	2	2	5	M	*	P 723
Production Management	2	2	5	M	*	D 820
Rapid Prototyping	2	2	5	M	**	D 1001
Optional courses I	2	2	5	O	*	
Optional courses II	2	2	5	O	*	
	12	12	30		5	

Optional courses I	L	E	ECTS	S	Code number
Flexible Manufacturing Systems	2	2	5	O	D 925
Designing of Technologies	2	2	5	O	D 857
Finite Element Method	2	2	5	O	P 705

Optional courses II	L	E	ECTS	S	Code number
Tool Materials	2	2	5	O	D 840
Composites and Polymers	2	2	5	O	D 842

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Semester III

Course	L	E	ECTS	S	Exam	Code number
Design and Analysis of Experiments	2	2	5	M	**	D 923
Application of Artificial Intelligence	2	2	5	M	*	P 724
Project Management	2	2	5	M	*	D 922
Information Systems of Production Enterprises	2	2	5	M	*	D 822
Optional courses III	2	2	5	O	*	
Seminary	0	4	5	M		D 911
	10	14	30		4	

Optional courses III	L	E	ECTS	S	Code number
New Production Technologies	2	2	5	O	D 843
Quality Management	2	2	5	O	D 926

Semester IV

Course	L	E	ECTS	S	Exam	Code number
Optimization of Tribomechanical Systems	2	2	4	M	*	D 1022
Materials Selection and Application	2	2	4	M	*	D 1026
Computer Integrated Manufacturing	2	2	4	M	*	D 1002
Optional courses IV	2	2	4	O	*	
Graduation work	0	8	14	M		D 1020
	8	16	30		4	

Optional courses IV	L	E	ECTS	S	Code number
Costs Management	2	2	4	O	D 824
Product Data Management	2	2	4	O	D 1006
Programming	2	2	4	O	D 1007

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3.1.1.3. Materials Engineering

Semester I

Course	L	E	ECTS	S	Exam	Code number
Designing of Production Systems	2	2	5	M	*	P 604
Microstructure and Properties of Materials	2	2	5	M	*	D 932
Special Steels	2	2	5	M	*	P 751
Surface Protection	2	2	5	M	*	P 759
Tribology	2	2	5	M	**	P 752
Optional courses I	2	2	5	O	**	
	12	12	30		4	

Optional courses I	L	E	ECTS	S	Code number
Renewable Energy Sources	2	2	5	O	D 928
Heat Transfer	2	2	5	O	D 728

Semester II

Course	L	E	ECTS	S	Exam	Code number
Tool Materials	2	2	5	M	*	D 840
Surface Heat Treatment and Surface Engineering	2	2	5	M	*	D 841
Composites and Polymers	2	2	5	M	*	D 842
Temperature Fields	2	2	5	M	**	P 794
Materials Management	2	2	5	M	*	D 921
Optional courses II	2	2	5	O	*	
	12	12	30		5	

Optional courses II	L	E	ECTS	S	Code number
Welding	2	2	5	O	D 851
Recycling and Ecological Product Providing	2	2	5	O	D 1010

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Semester III

Course	L	E	ECTS	S	Exam	Code number
Design and Analysis of Experiments	2	2	5	M	**	D 923
Quality Management	2	2	5	M	*	D 926
Alloys of Non-ferrous Metals	2	2	5	M	*	D 1033
Laboratory Materials Testings	2	2	5	M	**	D 844
Optional courses III	2	2	5	M	*	
Seminary	0	4	5	O		D 911
	10	14	30		3	

Optional courses III	L	E	ECTS	S	Code number
Project Management	2	2	5	O	D 922
Maintenance Strategies	2	2	5	O	D 1021

Semester IV

Course	L	E	ECTS	S	Exam	Code number
Welding Metallurgy	2	2	4	M	*	D 1031
Optimization of Tribomechanical Systems	2	2	4	M	*	D 1022
Materials Selection and Application	2	2	4	M	*	D 1026
Optional courses IV	2	2	4	O	*	
Graduation work	0	8	14	M		D 1020
	8	16	30		4	

Optional courses IV	L	E	ECTS	S	Code number
Programming	2	2	4	O	D 1007
Production Management	2	2	4	O	D 820

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3.1.1.4. Engineering Technologies

Semester I

Course	L	E	ECTS	S	Exam	Code number
Casting Engineering	2	2	5	M	*	P 781
Machining Procedures	2	2	5	M	*	P 783
Surface Protection	2	2	5	M	*	P 759
Polymers Processing	2	2	5	M	*	P 784
Designing of Production Systems	2	2	5	M	*	P 604
Optional courses I	2	2	5	O	**	
	12	12	30		5	

Optional courses I	L	E	ECTS	S	Code number
Special Casting Procedures	2	2	5	O	P 790
Designing of Polymer Products	2	2	5	O	D 860

Semester II

Course	L	E	ECTS	S	Exam	Code number
Metal Forming I	2	2	5	M	*	D 782
Designing of Technologies	2	2	5	M	*	D 857
Technology Manufacture of the Products	2	2	5	M	*	D 942
Welding	2	2	5	M	*	D 851
Optional courses II	2	2	5	O	**	
Optional courses III	2	2	5	O	**	
	12	12	30		4	

Optional courses II and III	L	E	ECTS	S	Code number
Foundries Automation	2	2	5	O	D 856
Flexible Manufacturing Systems	2	2	5	O	D 925
Temperature Fields	2	2	5	O	P 794
Technologies of Surface Protection	2	2	5	O	D 952

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Semester III

Course	L	E	ECTS	S	Exam	Code number
New Production Technologies	2	2	5	M	*	D 843
Technological Process Parameters Optimisation	2	2	5	M	*	D 941
Quality Management	2	2	5	M	*	D 926
Optional courses IV	2	2	5	O	*	
Optional courses V	2	2	5	O	**	
Seminary	0	4	5	M		D 911
	10	14	30		4	

Optional courses IV	L	E	ECTS	S	Code number
Maintenance Strategies	2	2	5	O	D 1021
Project Management	2	2	5	O	D 922

Optional courses V	L	E	ECTS	S	Code number
Mechanization, Automation and Robotization in Welding	2	2	5	O	D 1047
Tools and Devices II	2	2	5	O	D 951

Semester IV

Course	L	E	ECTS	S	Exam	Code number
Rapid Prototyping	2	2	4	M	**	D 1001
Reliability of Systems	2	2	4	M	*	D 1042
Optional courses VI	2	2	4	O	*	
Optional courses VII	2	2	4	O	*	
Graduation work	0	8	14	M		D 1020
	8	16	30		3	

Optional courses VI	L	E	ECTS	S	Code number
Welding Metallurgy	2	2	4	O	D 1031
Tool Materials	2	2	4	O	D 840

Optional courses VII	L	E	ECTS	S	Code number
Selected Chapters of Quality Control and Quality Assurance	2	2	4	O	D 1052
Metal Forming II	2	2	4	O	D 1043
Selected Chapters of Casting Engineering	2	2	4	O	D 1044

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