# Study plan

# Name of study plan: 15 141 NSTI MCH 2012 základ

Faculty/Institute/Others: Department: Branch of study guaranteed by the department: Welcome page Garantor of the study branch: Program of study: Welcome page Type of study: unknown Required credits: 124 Elective courses credits: 0 Sum of credits in the plan: 124 Note on the plan:

Name of the block: Compulsory courses in the program Minimal number of credits of the block: 121 The role of the block: P

Code of the group: 12NS\*1P-MCH Name of the group: 2012 NSTI 1.sem povinné MCH Requirement credits in the group: In this group you have to gain 31 credits Requirement courses in the group: In this group you have to complete 8 courses Credits in the group: 31 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2013054	Mathematics for Mechanics	Z	4	3P+1C	*	Р
2311075	Mechanics of Mechanisms Jan Pelikán, Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el <b>Zbyn k Šika</b> Zbyn k Šika (Gar.)	ZK	4	3P+0C	*	Ρ
2141093	Microelectronics Lukáš Novák, Stanislava Papežová Stanislava Papežová Lukáš Novák (Gar.)	Z,ZK	3	2P+0C+1L	*	Ρ
2121043	Computational Fluid Mechanics Tomáš Hyhlík	ZK	4	3P+0C	*	Р
2313111	Project I. Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el Zbyn k Šika Zbyn k Šika (Gar.)	Z	5	0P+5C	*	Ρ
2312017	<b>Controlled mechanical systems I.</b> Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Ivo Bukovský, Pavel Steinbauer <b>Michael Valášek</b> Michael Valášek (Gar.)	КZ	3	3P+0C	*	Ρ
2361035	Theory and Construction of Instruments Jan Hošek Jan Hošek Jan Hošek (Gar.)	Z,ZK	3	2P+1C	*	Р

#### Characteristics of the courses of this group of Study Plan: Code=12NS\*1P-MCH Name=2012 NSTI 1.sem povinné MCH

2013054 Mathematics for Mechanics

Ζ Summary: Tensor calculus. Introduction to functional analysis. Calculus of variations. Orthogonal transformation of coordinate systems. Afinne orthogonal tensors and tensor operations. Tensor as linear operator and bilinear form. Metrics and metric spaces. Convergence. Completness. Linear normed space. Banach space. Linear space with scalar product (unitary space). Hilbert space. Contractive operators and Banach fixed point theorem. Function spaces in examples. Operators and functionals. Linear, continuous and bounded operator/functional. Derivative of a functional in the given direction. Gateaux differential and derivative. Necessary and sufficient conditions for extremes of a functional. Convex set and convex functional. Minimum of convex functional. Extremes of functional of different types. Euler equation. Necessary and sufficient conditions for extrema. Discrete methods for approximation of the minima of an functional. Ritz method.

4

2311075	Mechanics of Mechanisms	ZK	4
2141093	Microelectronics	Z,ZK	3
Basic characteristics of	logic circuits and programmable logical systems, input and output circuits - voltage and current matching, D/A and A/D conv	erters, coding, line	es and protocols
of communications, ele	ctronic and optoelectronic parts for microelectronics, microprocessor system applications.		
2121043	Computational Fluid Mechanics	ZK	4
This course extends the	howledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is place	ed on understand	ling the basic
principles of computation	nal fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamics are solved.		
2313111	Project I.	Z	5
2312017	Controlled mechanical systems I.	KZ	3

2361035	Theory and Construction of Instruments	
Subject gives knowledg	e about basics of instruments design in order student would be able to design different kinds of mechanical instruments.	

#### 3

## Code of the group: 12NS\*2P-MCH Name of the group: 2012 NSTI 2.sem povinné MCH Requirement credits in the group: In this group you have to gain 30 credits

## Requirement courses in the group: In this group you have to complete 9 courses

## Credits in the group: 30

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2142028	Electrical Engineering for Mechatronics Jan Chyský Jan Chyský (Gar.)	КZ	3	2P+0C+1L	*	Ρ
2311074	Vibrations of Mechanical Systems Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el Václav Bauma Václav Bauma (Gar.)	ZK	4	3P+0C	*	Ρ
2313023	Mechatronics Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	Z	2	2P+0C	*	Ρ
2111035	Finite Element Method II. Miroslav Španiel Miroslav Španiel Miroslav Španiel (Gar.)	ZK	3	2P+0C	*	Ρ
2313112	Project II. Jan Pelikán, Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer, Ctirad Novotný <b>Zbyn k Šika</b> Zbyn k Šika (Gar.)	Z	5	0P+5C	*	Ρ
2312027	Controlled Mechanical Systems II. Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	КZ	2	2P+0C	*	Ρ
2311076	Simulation of Mechatronic Systems Jan Pelikán, Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el <b>Zbyn k</b> Šika Zbyn k Šika (Gar.)	ZK	3	2P+0C	*	Ρ
2121055	Thermodynamics Tomáš Hyhlík Tomáš Hyhlík (Gar.)	ZK	4	3P+0C	*	Ρ

#### Characteristics of the courses of this group of Study Plan: Code=12NS\*2P-MCH Name=2012 NSTI 2.sem povinné MCH

The purpose of the course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Method for electromagnetic f approximative solution. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electromagnets. Drives for rota motion. DC motors. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling.         2311074       Vibrations of Mechanical Systems       ZK       4         2313023       Mechatronics       ZK       4         2313112       Project II.       ZK       3         2311076       Simulation of Mechanical Systems II.       KZ       2         2311076       Simulation of Mechatronic Systems       ZK       3         2121055       Thermodynamics       ZK       3         2121055       Thermodynamics       ZK       3	2142028	Electrical Engineering for Mechatronics	KZ	3
motion. DC motors. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling.2311074Vibrations of Mechanical SystemsZK42313023MechatronicsZ22111035Finite Element Method II.ZK32312027Controlled Mechanical Systems II.Z52311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	The purpose of the	e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their provide the student knowledge about different types of electrical drives for mechatronic systems and their provide the student knowledge about different types of electrical drives for mechatronic systems and their provide the student knowledge about different types of electrical drives for mechatronic systems and their provide the student knowledge about different types of electrical drives for mechatronic systems and their provide the student knowledge about different types of electrical drives for mechatronic systems and their provide the student systems are structured.	actical use. Method for ele	ectromagnetic field
static and dynamic properties. Using MATLAB for drivers behaviour modelling.2311074Vibrations of Mechanical SystemsZK42313023MechatronicsZ22111035Finite Element Method II.ZK32313112Project II.Z52312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	approximative solu	ution. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics para	ameters of electromagnets	b. Drives for rotating
2311074Vibrations of Mechanical SystemsZK42313023MechatronicsZ22111035Finite Element Method II.ZK32313112Project II.Z52312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	motion. DC motors	s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction	motors. Mathematical des	scription of their
2313023MechatronicsZ22111035Finite Element Method II.ZK32313112Project II.Z52312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	static and dynamic	c properties. Using MATLAB for drivers behaviour modelling.		
2111035Finite Element Method II.ZK32313112Project II.Z52312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	2311074	Vibrations of Mechanical Systems	ZK	4
2313112Project II.Z52312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	2313023	Mechatronics	Z	2
2312027Controlled Mechanical Systems II.KZ22311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	2111035	Finite Element Method II.	ZK	3
2311076Simulation of Mechatronic SystemsZK32121055ThermodynamicsZK4	2313112	Project II.	Z	5
2121055 Thermodynamics ZK 4	2312027	Controlled Mechanical Systems II.	KZ	2
	2311076	Simulation of Mechatronic Systems	ZK	3
The aim of the course is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the real gas thermodynamics, irreversible pro	2121055	Thermodynamics	ZK	4
	The aim of the cou	urse is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the r	eal gas thermodynamics,	irreversible proces

thermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat engines and machines also.

Code of the group: 12NS\*3P-MCH

Name of the group: 2012 NSTI 3.sem povinné MCH

Requirement credits in the group: In this group you have to gain 28 credits

Requirement courses in the group: In this group you have to complete 8 courses

Credits in the group: 28

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2111083	Continuum Mechanics Ji í Plešek <b>Ji í Plešek</b> Ji í Plešek (Gar.)	ZK	4	3P+0C	*	Ρ
2313113	Project III. Jan Pelikán, Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer, Zbyn k Šika Zbyn k Šika (Gar.)	Z	10	0P+10C	*	Р

2312021	<b>Controlled Active Structures</b> Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el <b>Zbyn k Šika</b> Zbyn k Šika (Gar.)	KZ	2	2P+0C	*	Р
2313005	Signal Processing and Processors Jan Pelikán, Václav Bauma, Zbyn k Šika, Michael Valášek, Ivo Bukovský <b>Ivo</b> Bukovský Ivo Bukovský (Gar.)	Z	1	1P+0C	*	Р
2311079	Statistical Mechanics Václav Bauma, Zbyn k Šika, Michael Valášek, Ivo Bukovský <b>Ivo Bukovský</b> Ivo Bukovský (Gar.)	ZK	4	3P+0C	*	Р
2313027	Antificial Intelligence Jan Pelikán, Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer <b>Ivo Bukovský</b> Ivo Bukovský (Gar.)	Z	1	1P+0C	*	Ρ

#### Characteristics of the courses of this group of Study Plan: Code=12NS\*3P-MCH Name=2012 NSTI 3.sem povinné MCH

2111083	Continuum Mechanics	ZK	4
2313113	Project III.	Z	10
Individual asignment			
2312021	Controlled Active Structures	KZ	2
2313005	Signal Processing and Processors	Z	1
2311079	Statistical Mechanics	ZK	4
2313027	Antificial Intelligence	Z	1

Code of the group: 12NS\*4P-MCH

Name of the group: 2012 NSTI 4.sem povinné MCH

Requirement credits in the group: In this group you have to gain 32 credits

Requirement courses in the group: In this group you have to complete 9 courses

Credits in the group: 32

Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2313998	Diploma project Jan Pelikán, Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer, Michael Valášek Michael Valášek (Gar.)	z	10	0P+10C+0L	- *	Ρ
2311091	System Identification Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el Zbyn k Šika Zbyn k Šika (Gar.)	ZK	3	2P+0C	*	Р
2351087	Industrial Robots and Manipulators Tomáš Krannich, Vladimír Andrlík, Ji í Švéda Vladimír Andrlík Vladimír Andrlík (Gar.)	Z,ZK	3	2P+0C+1L	*	Р
2383062	Budget and Project Economic Assessment František Freiberg, Miroslav Žilka František Freiberg František Freiberg (Gar.)	Z	2	1P+2C	*	Ρ
2311081	Software Engineering Jan Pelikán, Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer Ivo Bukovský Ivo Bukovský (Gar.)	ZK	3	2P+0C	*	Р
2311019	Synthesis and Optimization of Mechanical Systems Václav Bauma, Petr Beneš, Zbyn k Šika, Michael Valášek, Jan Zav el Zbyn k Šika Zbyn k Šika (Gar.)	ZK	3	2P+0C	*	Р
2313031	Real Time Systems and Processors Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Martin Ne as, Pavel Basti <b>Ivo Bukovský</b> Ivo Bukovský (Gar.)	Z	2	2P+0C	*	Р
2311084	Advanced Dynamics Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Tomáš Vampola Tomáš Vampola Tomáš Vampola (Gar.)	ZK	3	2P+0C	*	Р
2113017	Basic of Engineering Experimentals Pavel Steinbauer, Karel Doubrava, Václav Uruba Karel Doubrava Karel Doubrava (Gar.)	z	3	2P+1C	*	Ρ

#### Characteristics of the courses of this group of Study Plan: Code=12NS\*4P-MCH Name=2012 NSTI 4.sem povinné MCH

2313998	Diploma project	Z	10
individual assignment		•	
2311091	System Identification	ZK	3
2351087	Industrial Robots and Manipulators	Z,ZK	3
Construction of indust	rial robots and manipulators, kinematic structures, various types of driving units, moving units, end effectors.		

2383062	Budget and Project Economic Assessment				Z	2
The goal of the course is	s to improve the knowledge gained within the basic bachelor's degree course Managemen	t and Economics	of the Enter	prise. The c	ourse focuses	s primarily on
1 0	vledge and skills in the creation and evaluation of the operational budget, proper preparation		0			
	of an investment project, as it corresponds to contemporary knowledge and the developm	-			-	
	l or engineering company or its sub-section (preferably inspired by their practical experience iled plan and budget of a project (e.g. new product development, product or process innov	-				
1 1 1	ompany. The second task is cost calculation for chosen calculation unit. Last task within thi					· .
described within the first	task. The dynamic methods like Net Present Value (NPV), Internal Rate of Return (IRR) c	or Discounted Pay	back Period	(DPP) are	used for this e	evaluation.
The quality of realization	and presentation of the task's outputs together with the results of the test decides on grain	nting / denial of cr	edit.			
2311081	Software Engineering				ZK	3
2311019	Synthesis and Optimization of Mechanical Systems				ZK	3
2313031	Real Time Systems and Processors				Z	2
2311084	Advanced Dynamics				ZK	3
2113017	Basic of Engineering Experimentals				Z	3
	ock: Compulsory elective courses					
Minimal numbe	er of credits of the block: 3					
The role of the	block: PV					
Codo of the gr						
•	oup: 12N**3QJV					
0	oup: 2012 N 3.sem povinná jazyková výuka					
Requirement c	redits in the group: In this group you have to gain 2 c	redits				
Requirement c	ourses in the group: In this group you have to comple	ete 1 cours	se			
Credits in the g						
-						
Note on the gr	•	1	1		1	
	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their					
Code	members)	Completion	Credits	Scope	Semester	Role
	Tutors, <b>authors</b> and guarantors (gar.)					
	English - Preparatory Course / FME	_	_			
2043081	Veronika Kratochvílová, Eliška Vítková, Ilona Šimice, Michaela Schusová, Hana	Z	2	0P+2C	*	PV
	Volejníková Nina Procházková Ayyub					
2043086	Czech - Preparatory Course Michaela Schusová, Hana Volejníková, Petr Laurich	Z	2	0P+2C	*	PV
	French - Preparatory Course / FME	_	_			
2043083	Michaela Schusová, Dušana Jirovská Michaela Schusová Dušana Jirovská	Z	2	0P+2C	*	PV
	(Gar.) German - Lower Intermediate Course					
2043082	Eliška Vítková, Michaela Schusová, Petr Laurich, Jaroslava Kommová	Z	2	0P+2C	*	PV
	Jaroslava Kommová Jaroslava Kommová (Gar.)					
2043085	Russian - Preparatory Course / FME Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková	Z	2	0P+2C	*	PV
2043084	Spanish - Preparatory Course / FME	z	2	0P+2C	*	PV
	Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková					
Characteristics of	the courses of this group of Study Plan: Code=12N**3QJV Name	e=2012 N 3.s	em povin	ná iazvk	ová výuka	9
2043081	English - Preparatory Course / FME				7	2
	arly what is spoken about everyday situations which a student meets at school or in his/her	free time and spe	eaking abou	t them. Writ	ing in a simpl	
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language. European leve	l A1 - A2.	-			
2043086	Czech - Preparatory Course				Z	2
	arly what is spoken about everyday situations which a student meets at school or in his/her	free time and spe	eaking abou	t them. Writ	ing in a simpl	e way about
	and comprehension of simple texts. Improvement of professional language.					-
2043083	French - Preparatory Course / FME	6			Z	2
-	arly what is spoken about everyday situations which a student meets at school or in his/her	free time and spe	eaking abou	t them. Writ	ing in a simpl	e way about
2043082	and comprehension of simple texts. Improvement of professional language. German - Lower Intermediate Course			1	Z	2
	Common European Framework of Reference A2 Aim: Understanding clearly spoken langua	ide about everyda	v situations	 which a stu		
	time and speaking about them. Writing in a simple way about familiar topics. reading and c					
2043085	Russian - Preparatory Course / FME				Z	2
	arly what is spoken about everyday situations which a student meets at school or in his/her	free time and spe	eaking abou	t them. Writ		- 1
-	and comprehension of simple texts. Improvement of professional language.	-	5		- 1	-
2043084	Spanish - Preparatory Course / FME				Z	2
Aim: Understanding clea	arly what is spoken about everyday situations which a student meets at school or in his/her	free time and spe	eaking abou	t them. Writ	ing in a simpl	e way about
familiar topics. Reading	and comprehension of simple texts. Improvement of professional language.					

Code of the group: 12N\*\*3Q--JZ

Name of the group: 2012 N 3.sem povinná jazyková zkouška Requirement credits in the group: In this group you have to gain 1 credit

## Requirement courses in the group: In this group you have to complete 1 course Credits in the group: 1 Note on the group:

Code	Name of the course / Name of the group of courses (in case of groups of courses the list of codes of their members) Tutors, authors and guarantors (gar.)	Completion	Credits	Scope	Semester	Role
2041081	English - Master Exam Veronika Kratochvílová, Eliška Vítková, Ilona Šimice, Michaela Schusová, Hana Volejníková, Michele Le Blanc, Nina Procházková Ayyub Nina Procházková Ayyub Ilona Šimice (Gar.)	ZK	1	0P+0C	*	PV
2041086	Czech- Master Exam Michaela Schusová, Hana Volejníková, Petr Laurich	ZK	1	0P+0C	*	PV
2041083	French - Master Exam / FME Michaela Schusová, Dušana Jirovská Dušana Jirovská (Gar.)	ZK	1	0P+0C	*	PV
2041082	German - Master Exam / FME Eliška Vítková, Michaela Schusová, Petr Laurich, Jaroslava Kommová Jaroslava Kommová Jaroslava Kommová (Gar.)	ZK	1	0P+0C	*	PV
2041085	Russian - Master Exam / FME Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková	ZK	1	0P+0C	*	PV
2041084	<b>Spanish - Master Exam / FME</b> Michaela Schusová, Jaime Andrés Villagómez <b>Eliška Vítková</b> Jaime Andrés Villagómez (Gar.)	ZK	1	0P+0C	*	PV

#### Characteristics of the courses of this group of Study Plan: Code=12N\*\*3Q--JZ Name=2012 N 3.sem povinná jazyková zkouška

2041081	English - Master Exam	ZK	1
Mapped to the level of	common European Framework of Reference: A2. Aim: Understanding clearly what is spoken about everyday situations which	a student meets	at school or in
his/her free time and sp	eaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of	of professional lar	nguage.
2041086	Czech- Master Exam	ZK	1
2041083	French - Master Exam / FME	ZK	1
Mapped to the level of 0	common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	s either at school
or in his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme	nt of professional	language.
2041082	German - Master Exam / FME	ZK	1
Mapped to the level of 0	common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	s either at school
or in his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme	nt of professional	language.
2041085	Russian - Master Exam / FME	ZK	1
Mapped to the level of 0	Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	s either at school
or in his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme	nt of professional	language.
2041084	Spanish - Master Exam / FME	ZK	1
Mapped to the level of 0	Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	s either at school
or in his/her free time a	nd speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme	nt of professional	language.

## List of courses of this pass:

Code	Name of the course	Completion	Credits
2013054	Mathematics for Mechanics	Z	4
Summary: Tensor c	alculus. Introduction to functional analysis. Calculus of variations. Orthogonal transformation of coordinate systems. Afinne orthogonal	tensors and tensor	operations.
Tensor as linear o	perator and bilinear form. Metrics and metric spaces. Convergence. Completness. Linear normed space. Banach space. Linear space	e with scalar produ	ict (unitary
space). Hilbert space	e. Contractive operators and Banach fixed point theorem. Function spaces in examples. Operators and functionals. Linear, continuous ar	d bounded operato	or/functional.
Derivative of a func	tional in the given direction. Gateaux differential and derivative. Necessary and sufficient conditions for extremes of a functional. Con	vex set and convex	k functional.
Minimum of conve	ex functional. Extremes of functional of different types. Euler equation. Necessary and sufficient conditions for extrema. Discrete meth	ods for approxima	tion of the
	minima of an functional. Ritz method.		
2041081	English - Master Exam	ZK	1
Mapped to the leve	el of Common European Framework of Reference: A2. Aim: Understanding clearly what is spoken about everyday situations which a	student meets at s	school or in
his/her free tim	e and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	iguage.
2041082	German - Master Exam / FME	ZK	1
Mapped to the leve	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eith	er at school
or in his/her free	time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional la	anguage.
2041083	French - Master Exam / FME	ZK	1
Mapped to the leve	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eith	er at school
or in his/her free	time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemen	nt of professional la	anguage.
2041084	Spanish - Master Exam / FME	ZK	1
Mapped to the leve	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eith	er at school
or in his/her free	time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemer	nt of professional la	anguage.

	Russian - Master Exam / FME	ZK	1
2041085 Mapped to the leve	l of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a		1
or in his/her free	time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional I	anguage.
2041086	Czech- Master Exam	ZK	1
2043081	English - Preparatory Course / FME	Z	2
im: Understandin	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	• ·	e way abo
0040000	familiar topics. Reading and comprehension of simple texts. Improvement of professional language. European level A1 - A2		0
2043082	German - Lower Intermediate Course rel of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	Z a atudant maata a	2
	er free time and speaking about them. Writing in a simple way about familiar topics, reading and comprehesion of simple texts. Improver		
2043083	French - Preparatory Course / FME	Z	2
	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	—	1
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	······g ·····p	,
2043084	Spanish - Preparatory Course / FME	Z	2
	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	1
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2043085	Russian - Preparatory Course / FME	Z	2
im: Understandin	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	e way abo
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2043086	Czech - Preparatory Course	Z	2
im: Understandin	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	Writing in a simple	e way abo
0444555	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		-
2111035	Finite Element Method II.	ZK	3
2111083	Continuum Mechanics	ZK	4
2113017	Basic of Engineering Experimentals	Z	3
2121043	Computational Fluid Mechanics	ZK	4
This course exten	ds the knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placed	d on understandin	g the basi
	inciples of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic		
2121055	Thermodynamics	ZK	4
	rse is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the real gas thermo	-	sible proce
	ermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat engines and ma		
2141093	Microelectronics	Z,ZK	3
asic characteristic	e of logic circuite and programmable logical evetome, input and output circuite - voltage and current matching. D/A and A/D converte		
	s of logic circuits and programmable logical systems, input and output circuits - voltage and current matching, D/A and A/D converte of communications, electronic and ontoelectronic parts for microelectronics, microprocessor system applications	rs, coding, lines a	nd protoco
	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications.	_	-
2142028	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics	KZ	3
2142028 The purpose of the	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me	KZ ethod for electrom	3 agnetic fie
2142028 The purpose of the poproximative solution	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect	KZ ethod for electrom tromagnets. Drive	3 agnetic fie s for rotati
2142028 The purpose of the poproximative solution	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me	KZ ethod for electrom tromagnets. Drive	3 agnetic fie s for rotati
2142028 he purpose of the oproximative solut motion. DC motor	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me tion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect rs. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling.	KZ withod for electrom tromagnets. Drive nematical descript	3 agnetic fie s for rotati ion of thei
2142028 he purpose of the pproximative solut motion. DC motor 2311019	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems	KZ ethod for electrom tromagnets. Drive nematical descript ZK	3 agnetic fie s for rotati
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK	3 agnetic fie s for rotati ion of thei 3 4
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK	3 agnetic fie s for rotati ion of thei 3 4 4
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075 2311076	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me tion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect rs. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanics of Mechanisms Mechanics of Mechanisms Simulation of Mechatronic Systems	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK	3 agnetic fie s for rotati ion of their 3 4 4 4 3
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me tion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK	3       agnetic fie       s for rotation       ion of their       3       4       4       3       4       3       4       3       4
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me tion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Software Engineering	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK	3 agnetic fie s for rotati ion of thei 3 4 4 4 3 4 3
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechanicnic Systems Statistical Mechanics Advanced Dynamics	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK	3agnetic fields for rotation of the34434333
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechanicnics Statistical Mechanics Advanced Dynamics System Identification	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3 agnetic fie s for rotati ion of thei 3 4 4 4 3 3 3 3 3 3
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091 2312017	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect 's. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK K ZK	3agnetic fields for rotation of the34434333
2142028 ne purpose of the proximative solut 2311019 2311074 2311075 2311076 2311076 2311081 2311084 2311091	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechanicnics Statistical Mechanics Advanced Dynamics System Identification	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3agnetic fields for rotation of the344343333
2142028 he purpose of the proximative solut notion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091 2312017	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect 's. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK K ZK	3agnetic fields for rotation of the3443433333
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091 2312017 2312021	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanics Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK KZ KZ	3agnetic fields for rotation of the34434333332
2142028 he purpose of the proximative solut motion. DC motor 2311079 2311076 2311076 2311079 2311081 2311084 2311091 2312017 2312021 2312027	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures Controlled Mechanical Systems II.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK KZ KZ KZ	3agnetic fields for rotation of the344433333322
2142028 he purpose of the proximative solut motion. DC motor 2311079 2311075 2311076 2311076 2311079 2311081 2311084 2311091 2312017 2312027 2312027 2313005 2313023	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3agnetic fields for rotation of the344333333221
2142028 he purpose of the pproximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311076 2311084 2311084 2311091 2312017 2312021 2312027 2313005 2313023 2313027	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanisms Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Antificial Intelligence	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK KZ KZ KZ KZ	3           agnetic fie           s for rotation of their           3           4           4           3           4           3           3           3           3           3           3           3           3           3           3           3           2           1           2           1           2           1
2142028 he purpose of the proximative solut notion. DC motor 2311019 2311074 2311075 2311076 2311076 2311079 2311081 2311084 2311091 2312017 2312021 2312027 2313005 2313023 2313027 2313031	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrics. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanics Statistical Mechanics Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Mechanical Systems I. Controlled Mechanical Systems I. Signal Processing and Processors Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK KZ KZ KZ KZ	3           agnetic fie           s for rotation of the           3           4           4           3           4           3           3           3           3           3           3           3           3           3           3           2           2           1           2           1           2           1           2
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091 2312017 2312021 2312027 2313005 2313023 2313027 2313031 2313111	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect rs. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Nechanics of Mechanics Simulation of Mechanics Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures Controlled Active Structures Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Antificial Intelligence Real Time Systems and Processors Project I.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotation of the           3           4           4           3           3           3           3           3           3           3           2           2           1           2           5
2142028 he purpose of the proximative solut motion. DC motor 2311074 2311075 2311076 2311076 2311079 2311081 2312017 2312027 2312027 2313005 2313023 2313027 2313031 2313112	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elec- s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Nechanics of Mechanisms Simulation of Mechatronic Systems Simulation of Mechanics Software Engineering Advanced Dynamics Controlled mechanical systems I. Controlled mechanical systems I. Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Antificial Intelligence Real Time Systems and Processors Project I. Project I.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotation of their           3           4           4           3           4           3           3           3           3           3           3           3           2           1           2           5           5
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311076 2311084 2311081 2312017 2312021 2312027 2313005 2313023 2313027 2313031 2313111	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics e ourse is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elec- s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math- static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Nechanics of Mechanics Simulation of Mechanics Statistical Mechanics Software Engineering Advanced Dynamics Controlled mechanical systems I. Controlled mechanical systems I. Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Attrificial Intelligence Real Time Systems and Processors Project I. Project II. Project II.	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotation           ion of their           3           4           4           3           4           3           3           3           3           3           3           3           2           1           2           5
2142028 he purpose of the proximative solut motion. DC motor 2311074 2311075 2311076 2311076 2311079 2311081 2312017 2312017 2312027 2313005 2313023 2313027 2313027 2313031 2313111 2313112 2313113	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Nechanics of Mechanics Simulation of Mechatronic Systems Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Mechanical Systems I. Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Antificial Intelligence Real Time Systems and Processors Project I. Project II. Project II. Individual asignment	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fies           s for rotati           ion of their           3           4           4           3           4           3           3           3           3           3           3           3           2           1           2           5           5           10
2142028 he purpose of the proximative solut motion. DC motor 2311019 2311074 2311075 2311076 2311079 2311081 2311084 2311091 2312017 2312021 2312027 2313005 2313023 2313027 2313031 2313111 2313112	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Mathematical description of their static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanics of Mechanisms Simulation of Mechatronic Systems Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Mechanical Systems II. Signal Processing and Processors Mechatronics Antificial Intelligence Real Time Systems and Processors Project I. Project II. Individual asignment Diploma project	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotation of the           3           4           4           4           3           3           3           3           3           3           2           2           1           2           5           5           10
2142028 he purpose of the proximative solut motion. DC motor 2311074 2311075 2311076 2311076 2311079 2311081 2312017 2312021 2312027 2313005 2313023 2313027 2313027 2313031 2313111 2313112 2313113 2313998	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elect s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanics Simulation of Mechatronic Systems Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Active Structures Controlled Active Structures Controlled Active Structures Mechatronics Signal Processing and Processors Antificial Intelligence Real Time Systems and Processors Project I. Project I. Project II. Project II. Diploma project individual assignment	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	3           agnetic fie           s for rotation of their           3           4           4           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           4           4           4           5           5           5
2142028 he purpose of the proximative solut motion. DC motor 2311074 2311075 2311076 2311076 2311079 2311081 2312017 2312017 2312027 2313005 2313023 2313027 2313027 2313031 2313111 2313112 2313113	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elec s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Matt static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanics Simulation of Mechatronic Systems Simulation of Mechatronic Systems Simulation of Mechanics Software Engineering Advanced Dynamics Controlled Active Structures Controlled Active Structures Controlled Mechanical Systems I. Controlled Mechanical Systems I. Signal Processing and Processors Mechatronics Attificial Intelligence Attificial Intelligence Real Time Systems and Processors Project I. Project II. Project II. Diploma project individual asignment Industrial Robots and Manipulators	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	3           agnetic fies           s for rotati           ion of their           3           4           4           3           4           3           3           3           3           3           3           3           2           1           2           5           5           10
2142028 he purpose of the pproximative solut motion. DC motor 2311079 2311076 2311076 2311076 2311079 2311081 2312017 2312021 2312027 2313005 2313023 2313027 2313023 2313027 2313011 2313112 2313113 2313998 2351087	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion: The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elec- s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Math- static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanics of Mechanics Mechanics of Mechanics Simulation of Mechatronic Systems Statistical Mechanics Software Engineering Advanced Dynamics System Identification Controlled mechanical systems I. Controlled Mechanical Systems I. Controlled Mechanical Systems I. Signal Processing and Processors Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics Mechatronics M	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotati           ion of their           3           4           4           3           4           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           3           4           5           10           3
2142028 The purpose of the pproximative solut motion. DC motor 2311074 2311075 2311076 2311076 2311076 2311079 2311081 2312017 2312027 2312027 2312027 2313005 2313023 2313027 2313011 2313112 2313112 2313113 2313998 2351087 2361035	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications. Electrical Engineering for Mechatronics course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Me ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of elec s. Mathematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Matt static and dynamic properties. Using MATLAB for drivers behaviour modelling. Synthesis and Optimization of Mechanical Systems Vibrations of Mechanical Systems Mechanics of Mechanics Simulation of Mechatronic Systems Simulation of Mechatronic Systems Simulation of Mechanics Software Engineering Advanced Dynamics Controlled Active Structures Controlled Active Structures Controlled Mechanical Systems I. Controlled Mechanical Systems I. Signal Processing and Processors Mechatronics Attificial Intelligence Attificial Intelligence Real Time Systems and Processors Project I. Project II. Project II. Diploma project individual asignment Industrial Robots and Manipulators	KZ ethod for electrom tromagnets. Drive nematical descript ZK ZK ZK ZK ZK ZK ZK ZK ZK ZK	3           agnetic fie           s for rotatii           ion of their           3           4           4           3           4           3           3           3           3           3           3           3           2           1           2           5           5           10

The goal of the course is to improve the knowledge gained within the basic bachelor's degree course Management and Economics of the Enterprise. The course focuses primarily on deepening of basic knowledge and skills in the creation and evaluation of the operational budget, proper preparation and evaluation of costing model for manufactured products and the economic evaluation of an investment project, as it corresponds to contemporary knowledge and the development of management methods and techniques. Students specify a

simple fictional industrial or engineering company or its sub-section (preferably inspired by their practical experience, internships or training program in real company). The first student's task is to prepare a detailed plan and budget of a project (e.g. new product development, product or process innovation, etc.) focused on improvement of profitability, competitiveness or effectiveness of the company. The second task is cost calculation for chosen calculation unit. Last task within this course is the evaluation of economical effectiveness of the project described within the first task. The dynamic methods like Net Present Value (NPV), Internal Rate of Return (IRR) or Discounted Payback Period (DPP) are used for this evaluation. The quality of realization and presentation of the task's outputs together with the results of the test decides on granting / denial of credit.

For updated information see <u>http://bilakniha.cvut.cz/en/FF.html</u> Generated: day 2025-07-27, time 18:30.