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: Mechanical Engineering

Type of study: Follow-up master

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

Mathematics for Mechanics

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:

2013054

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 Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el Michael Valášek Michael Valášek (Gar.)	ZK	4	3P+0C	*	Р
2141093	Microelectronics Stanislava Papežová Stanislava Papežová (Gar.)	Z,ZK	3	2P+0C+1L	*	Р
2121043	Computational Fluid Mechanics Tomáš Hyhlík Tomáš Hyhlík Tomáš Hyhlík (Gar.)	ZK	4	3P+0C	*	Р
2313111	Project I. Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el Michael Valášek Michael Valášek (Gar.)	Z	5	0P+5C	*	Р
2312017	Controlled mechanical systems I. Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Ivo Bukovský, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	KZ	3	3P+0C	*	Р
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

Summary: Tensor calculus. Introduction to functional analysis. Calculus of variations. • Orthogonal transformation of coordinate systems. • Afinne orthogonal tensors and tensor							
operations. • Tensor as	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 func	tionals. Linear, co	ontinuous and				
bounded operator/fund	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 ext	trema. • Discrete				
methods for approxima	tion of the minima of an functional. Ritz method.						
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 converters, coding, lines and protocols							
of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications.							

2121043	Computational Fluid Mechanics	ZK	4			
This course extends the knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placed on understanding the basic						
principles of computational 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 Z,ZK 3
Subject gives knowledge about basics of instruments design in order student would be able to design different kinds of mechanical instruments.

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 Jan Chyský (Gar.)	KZ	3	2P+0C+1L	*	Р
2311074	Vibrations of Mechanical Systems Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el Michael Valášek Václav Bauma (Gar.)	ZK	4	3P+0C	*	Р
2313023	Mechatronics Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	Z	2	2P+0C	*	Р
2111035	Finite Element Method II. Miroslav Španiel Miroslav Španiel (Gar.)	ZK	3	2P+0C	*	Р
2313112	Project II. Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer, Ctirad Novotný, Jan Pelikán Michael Valášek Michael Valášek (Gar.)	Z	5	0P+5C	*	Р
2312027	Controlled Mechanical Systems II. Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer Michael Valášek Michael Valášek (Gar.)	KZ	2	2P+0C	*	Р
2311076	Simulation of Mechatronic Systems Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Jan Pelikán Michael Valášek Václav Bauma (Gar.)	ZK	3	2P+0C	*	Р
2121055	Thermodynamics Tomáš Hyhlík, Michal Schmirler Tomáš Hyhlík (Gar.)	ZK	4	3P+0C	*	Р

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

2142028	Electrical Engineering for Mechatronics	KZ	3	ı		
The purpose of the coul	se is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use.	Method for electr	omagnetic field	ı		
approximative solution. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electromagnets. Drives for rotating						
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 prop	erties. Usina MATLAB for drivers behaviour modellina.			ı		

2311074	Vibrations of Mechanical Systems	ZK	4
2313023	Mechatronics	Z	2
2111035	Finite Element Method II.	ZK	3
2313112	Project II.	Z	5
2312027	Controlled Mechanical Systems II.	KZ	2
2311076	Simulation of Mechatronic Systems	ZK	3
2121055	Thermodynamics	ZK	4
The sime of the course	es is to averaged the aturdantal lengulades esimod from the province source. The recommendance Alfo in the areas of the real was the		versible presses

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 process 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 Miroslav Španiel, Jan ezní ek, Ji í Plešek Ji í Plešek (Gar.)	ZK	4	3P+0C	*	Р
2313113	Project III. Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer, Jan Pelikán, Michael Valášek Michael Valášek (Gar.)	Z	10	0P+10C	*	Р

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

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:

Note on the grot	·P·					
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 Václav Bauma, Petr Beneš, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer, Jan Pelikán, Michael Valášek Václav Bauma (Gar.)	Z	10	0P+10C+0L	*	Р
2311091	System Identification Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el Michael Valášek Václav Bauma (Gar.)	ZK	3	2P+0C	*	Р
2351087	Industrial Robots and Manipulators Vladimír Andrlík, Ji í Švéda Vladimír Andrlík Vladimír Andrlík (Gar.)	Z,ZK	3	2P+1L	*	Р
2383062	Budget and Project Economic Assessment Miroslav Žilka Miroslav Žilka (Gar.)	Z	2	1P+2C	*	Р
2311081	Software Engineering Václav Bauma, Zden k Neusser, Zbyn k Šika, Michael Valášek, Jan Zav el, Ivo Bukovský, Pavel Steinbauer, Jan Pelikán Michael Valášek Michael Valášek (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 Michael Valášek 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 Michael Valášek Michael Valášek (Gar.)	Z	2	2P+0C	*	Р
2311084	Advanced Dynamics Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Tomáš Vampola Tomáš Vampola Michael Valášek (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	*	Р

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 industrial 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 to improve the knowledge gained within the basic bachelor's degree course Management and Economics of the Enterprise	e. The course focu	ses primarily on
deepening of basic kno	wledge and skills in the creation and evaluation of the operational budget, proper preparation and evaluation of costing mode	el for manufacture	d products and
the economic evaluation	n of an investment project, as it corresponds to contemporary knowledge and the development of management methods and	techniques. Stud	ents specify a
simple fictional industria	al or engineering company or its sub-section (preferably inspired by their practical experience, internships or training program ir	real company).T	he first student's
task is to prepare a det	ailed plan and budget of a project (e.g. new product development, product or process innovation, etc.) focused on improveme	ent 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 econ	omical effectivene	ess of the project
described within the first	st task. The dynamic methods like Net Present Value (NPV), Internal Rate of Return (IRR) or Discounted Payback Period (DP	P) are used for th	is evaluation.
The quality of realization	n and presentation of the task's outputs together with the results of the test decides on granting / denial of credit.		
2311081	Software Engineering	ZK	3
2311019	Synthesis and Optimization of Mechanical Systems	ZK	3
2313031	Real Time Systems and Processors	Z	2

ZK

3

3

Name of the block: Compulsory elective courses

Advanced Dynamics

Minimal number of credits of the block: 3

The role of the block: PV

2311084

2113017

Code of the group: 12N**3Q--JV

Name of the group: 2012 N 3.sem povinná jazyková výuka

Basic of Engineering Experimentals

Requirement credits in the group: In this group you have to gain 2 credits

Requirement courses in the group: In this group you have to complete 1 course

Credits in the group: 2 Note on the group:

Note on the gro	5ap.					
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
2043081	English - Preparatory Course / FME Eliška Vítková, Ilona Šimice, Michaela Schusová, Veronika Kratochvílová, Hana Volejníková, Nina Procházková Ayyub Nina Procházková Ayyub	Z	2	0P+2C	*	PV
2043086	Czech - Preparatory Course Michaela Schusová, Hana Volejníková, Petr Laurich	Z	2	0P+2C	*	PV
2043083	French - Preparatory Course / FME Michaela Schusová, Dušana Jirovská Michaela Schusová Michaela Schusová (Gar.)	Z	2	0P+2C	*	PV
2043082	German - Lower Intermediate Course Eliška Vítková, Michaela Schusová, Petr Laurich, Jaroslava Kommová Jaroslava Kommová	Z	2	0P+2C	*	PV
2043085	Russian - Preparatory Course / FME Eliška Vítková, Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková	Z	2	0P+2C	*	PV
2043084	Spanish - Preparatory Course / FME Eliška Vítková, Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková	Z	2	0P+2C	*	PV

2043081	English - Preparatory Course / FME	Z	2
•	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sir	nple way about
familiar topics. Read	ing and comprehension of simple texts. Improvement of professional language. European level A1 - A2.		
2043086	Czech - Preparatory Course	Z	2
Aim: Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sir	nple way about
familiar topics. Read	ing and comprehension of simple texts. Improvement of professional language.		
2043083	French - Preparatory Course / FME	Z	2
Aim: Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sir	nple way about
familiar topics. Read	ing and comprehension of simple texts. Improvement of professional language.		
2043082	German - Lower Intermediate Course	Z	2
Mapped to the level	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations whic	h a student meets	either at school
or in his/her free tim	e and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improveme	nt of professional	language.
2043085	Russian - Preparatory Course / FME	Z	2
Aim: Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the	m. Writing in a sir	nple way about
familiar topics. Read	ing and comprehension of simple texts. Improvement of professional language.		
2043084	Spanish - Preparatory Course / FME	Z	2
	clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about the		

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

Name of the group: 2012 N 3.sem povinná jazyková zkouška

familiar topics. Reading and comprehension of simple texts. Improvement of professional language.

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:

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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 Eliška Vítková, Ilona Šimice, Michaela Schusová, Veronika Kratochvílová, Hana Volejníková, Nina Procházková Ayyub Nina Procházková Ayyub	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 Eliška Vítková, Michaela Schusová, Dušana Jirovská Dušana Jirovská Michaela Schusová (Gar.)	ZK	1	0P+0C	*	PV
2041082	German - Master Exam / FME Eliška Vítková, Michaela Schusová, Petr Laurich, Jaroslava Kommová Jaroslava Kommová	ZK	1	0P+0C	*	PV
2041085	Russian - Master Exam / FME Eliška Vítková, Michaela Schusová, Hana Volejníková, Dušana Jirovská, Petr Zitko Eliška Vítková	ZK	1	0P+0C	*	PV
2041084	Spanish - Master Exam / FME Eliška Vítková, Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková	ZK	1	0P+0C	*	PV

Characteristics of the	e courses of this group of Study Plan: Code=12N**3QJZ Name=2012 N 3.sem povinná	jazyková zko	uška
2041081 Er	nglish - Master Exam	ZK	1
Mapped to the level of Com	nmon 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 speak	ing about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement of	of professional lan	iguage.
2041086 Cz	zech- Master Exam	ZK	1
2041083 Fr	rench - Master Exam / FME	ZK	1
Mapped to the level of Com	mon European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	h a student meets	either at school
or in his/her free time and s	speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional	language.
2041082 Ge	erman - Master Exam / FME	ZK	1
Mapped to the level of Com	nmon European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	h a student meets	either at school
or in his/her free time and s	speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional	language.
2041085 Ru	ussian - Master Exam / FME	ZK	1
Mapped to the level of Com	nmon European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	h a student meets	either at school
or in his/her free time and s	speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional	language.
2041084 Sp	panish - Master Exam / FME	ZK	1
Mapped to the level of Com	imon European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which	h a student meets	either at school
or in his/her free time and s	speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement	nt of professional	language.

List of courses of this pass:

Code	Name of the course	Completion	Credits
2013054	Mathematics for Mechanics	Z	4
Summary: Tens	or calculus. Introduction to functional analysis. Calculus of variations. • Orthogonal transformation of coordinate systems. • Afinne orth	nogonal tensors an	id tensor
operations. • Tens	or as linear operator and bilinear form. • Metrics and metric spaces. Convergence. Completness. • Linear normed space. Banach spa	ce. • Linear space	with scalar
product (unitary s	space). Hilbert space. • Contractive operators and Banach fixed point theorem. • Function spaces in examples. • Operators and function	onals. Linear, contir	nuous and
bounded operator	ffunctional. • Derivative of a functional in the given direction. Gateaux differential and derivative. • Necessary and sufficient conditions	for extremes of a f	unctional. •
Convex set and co	nvex functional. Minimum of convex functional. • Extremes of functional of different types. Euler equation. Necessary and sufficient col	nditions for extrema	a. • Discrete
	methods for approximation of the minima of an functional. Ritz method.		
2041081	English - Master Exam	ZK	1
Mapped to the lev	el of Common European Framework of Reference: A2. Aim: Understanding clearly what is spoken about everyday situations which a	student meets at s	chool or in
his/her free tin	ne and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement	of professional lan	guage.
2041082	German - Master Exam / FME	ZK	1
Mapped to the leve	i of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eith	er at schoo
or in his/her free	e 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.
2041083	French - Master Exam / FME	ZK	1
Mapped to the leve	i 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	e 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	i l of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	student meets eith	er at schoo
or in his/her free	e 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.
2041085	Russian - 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 schoo
or in his/her free	e 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.

2041086	Czech- Master Exam	ZK	1
2043081	English - Preparatory Course / FME	Z	2
im: Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. V familiar topics. Reading and comprehension of simple texts. Improvement of professional language. European level A1 - A2.		le way abou
2043082	German - Lower Intermediate Course	Z	2
	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a s time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement		
2043083	French - Preparatory Course / FME	Z	2
im: Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. V familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Vriting in a simpl	e way abou
2043084	Spanish - Preparatory Course / FME	Z	2
im: Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. V familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Vriting in a simpl	e way abou
2043085	Russian - Preparatory Course / FME	Z	2
im: Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. V familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Vriting in a simpl	e way abo
2043086	Czech - Preparatory Course	Z	2
im: Understanding	g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. V familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	Vriting in a simpl	e way abo
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
	ds the knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placed		ng the basio
· · · · · · · · · · · · · · · · · · ·	inciples of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamics		1 .
2121055	Thermodynamics	ZK	4
	se is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the real gas thermod ermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat engines and mad	-	sible proce
21/11/02	Microelectronice	フフレ	
2141093	Microelectronics S of logic circuits and programmable logical systems, input and output circuits - voltage and current matching. D/A and A/D converters	Z,ZK	3
2142028 he purpose of the proximative solution	s of logic circuits and programmable logical systems, input and output circuits - voltage and current matching, D/A and A/D converters 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. Met ion. The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of electrical drivers.	KZ hod for electrom	3 nagnetic fies for rotati
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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.

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