Study plan

Name of study plan: 14 141 NSTI AME 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: 132 Elective courses credits: -8 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: 91

The role of the block: P

Code of the group: 12NS*1P-AME

Name of the group: 2012 NSTI 1.sem povinné AME

Requirement credits in the group: In this group you have to gain 26 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 26 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 Zbyn k Šika Zbyn k Šika (Gar.)	ZK	4	3P+0C	*	Р
2141093	Microelectronics Lukáš Novák, Stanislava Papežová Stanislava Papežová Lukáš Novák (Gar.)	Z,ZK	3	2P+0C+1L	*	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
2121016	Theoretical Fluid Mechanics Tomáš Hyhlík Tomáš Hyhlík (Gar.)	ZK	4	3P+0C	*	Р

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

Mathematics for Mechanics

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.

2311075	Mechanics of Mechanisms	ZK	4				
2141093	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.							
2312017	Controlled mechanical systems I.	K7	3				

2121016 Theoretical Fluid Mechanics
The study subject aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely on fluids characteristics, various

description methods of fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow characteristics for incompressible flow.

Code of the group: 12NS*2P-AME

Name of the group: 2012 NSTI 2.sem povinné AME

Requirement credits in the group: In this group you have to gain 26 credits

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

Credits in the group: 26 Note on the group:

110to on the groot	φ.					
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
2142027	Electrical Engineering for Applied Mechanics Stanislava Papežová Stanislava Papežová (Gar.)	KZ	3	2P+0C+1L	*	Р
2311074	Vibrations of Mechanical Systems Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el Václav Bauma Václav Bauma (Gar.)	ZK	4	3P+0C	*	Р
2123018	Heat and Mass Transfer Pavel Sláma	Z	2	2P+0C	*	Р
2311076	Simulation of Mechatronic Systems Jan Pelikán, Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el Zbyn k Šika Zbyn k Šika (Gar.)	ZK	3	2P+0C	*	Р
2111049	Theory of elasticity Dušan Gabriel Dušan Gabriel (Gar.)	ZK	4	3P+0C	*	Р
2121055	Thermodynamics Tomáš Hyhlík Tomáš Hyhlík (Gar.)	ZK	4	3P+0C	*	Р

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

2142027	Electrical Engineering for Applied Mechanics	KZ	3	l
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	l
approximative solution.	The theory of linear and rotating drivers. Electromagnets supplied by AC and DC power. Static and dynamics parameters of	electromagnets. D	rives for rotating	
motion. DC motors. Mat	hematical description of their static and dynamic properties. Principle and function of stepper motor. AC induction motors. Ma	athematical descri	ption of their	
static and dynamic prop	erties. Using MATLAB for drivers behaviour modelling.			

2311074	Vibrations of Mechanical Systems	ZK	4		
2123018	Heat and Mass Transfer	Z	2		
The course extends the knowledge gained in the subject Thermomechanics Alfa especially in the area of heat transfer. Attention is paid to more complex cases (non-stationary,					
multidimensional problems) as well as to processes where heat transfer is accompanied by simultaneous mass transfer (mixing exchangers)					

	-,		
2311076	Simulation of Mechatronic Systems	ZK	3
2111049	Theory of elasticity	ZK	4

The objective of this course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mechanics courses such as theory of plasticity, fracture mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definitions of stress and strain tensors used in the linear theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor, postulates the constitutive relations for linear elastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation expressed in terms of the displacement vector and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylindrical coordinate systems is considered and the Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam using the Airy stress function in the form of a polynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrated vertical force action on a horizontal straight boundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in solid mechanics is presented including the principles of virtual displacements and virtual forces.

	2121055	Thermodynamics	∠K	4	
ı	The star of the second of			tanger of the first of the	

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-AME

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

Requirement credits in the group: In this group you have to gain 18 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 18

Note on the group:

2244074

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 Jií Plešek Jií Plešek Jií Plešek (Gar.)	ZK	4	3P+0C	*	Р
2121043	Computational Fluid Mechanics Tomáš Hyhlík	ZK	4	3P+0C	*	Р
2311079	Statistical Mechanics Václav Bauma, Zbyn k Šika, Michael Valášek, Ivo Bukovský Ivo Bukovský Ivo Bukovský (Gar.)	ZK	4	3P+0C	*	Р

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

2111083	Continuum Mechanics	ZK	4			
2121043	Computational Fluid Mechanics	ZK	4			
This course extends the	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.						
2311079	Statistical Mechanics	ZK	4			

Code of the group: 12NS*4P-AME

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

Requirement credits in the group: In this group you have to gain 21 credits

Requirement courses in the group: In this group you have to complete 7 courses

Credits in the group: 21 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
2121056	Gas Dynamics Michal Schmirler Michal Schmirler (Gar.)	ZK	4	3P+0C	*	Р
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
2111035	Finite Element Method II. Miroslav Španiel Miroslav Španiel (Gar.)	ZK	3	2P+0C	*	Р
2383062	Budget and Project Economic Assessment František Freiberg, Miroslav Žilka František Freiberg František Freiberg (Gar.)	Z	2	1P+2C	*	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
2311084	Advanced Dynamics Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, 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	*	Р

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

ı	2121056	Gas Dynamics	ZK	4			
	The study subjects aim is to expand the students' knowledge gained from the previous Alfa versions of the bachelors subjects Fluid Mechanics and Thermomechanics. It generalizes						
ı	the findings in the scope of compressible fluid flow; the attention is focussed on the several non-isentropic cycles as well as fundaments of non-stationary and multidimensional flows.						

2311091	System Identification	ZK	3
2111035	Finite Element Method II.	ZK	3
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. 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.

2311019	Synthesis and Optimization of Mechanical Systems	ZK	3
2311084	Advanced Dynamics	ZK	3
2113017	Basic of Engineering Experimentals	Z	3

Name of the block: Compulsory elective courses

Minimal number of credits of the block: 41

The role of the block: PV

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

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

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:

Code	Name of the course / Name of the group of courses	Completion	Credits	Scope	Semester	Role
	Tutors, authors and guarantors (gar.)					
2043081	English - Preparatory Course / FME Veronika Kratochvílová, Eliška Vítková, Ilona Šimice, Michaela Schusová, Hana Volejníková Nina Procházková Ayyub	Z	2	0P+2C	*	PV

				1	r	
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 Dušana Jirovská (Gar.)	Z	2	0P+2C	*	PV
2043082	German - Lower Intermediate Course Eliška Vítková, Michaela Schusová, Petr Laurich, Jaroslava Kommová Jaroslava Kommová Jaroslava Kommová (Gar.)	Z	2	0P+2C	*	PV
2043085	Russian - Preparatory Course / FME Michaela Schusová, Hana Volejníková, Dušana Jirovská Eliška Vítková	Z	2	0P+2C	*	PV
2043084	Spanish - Preparatory Course / FME Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková	Z	2	0P+2C	*	PV

2043084	Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková	_ Z	2	0P+2C	*	PV
Characteristics	of the courses of this group of Study Plan: Code=12N**3QJV Nam	e=2012 N 3.s	em povir	ná jazyk	ová výu	ka
2043081	English - Preparatory Course / FME				Z	2
Aim: Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/he	r free time and sp	eaking abou	t them. Writing	ng in a sim	ple way about
familiar topics. Readi	ng and comprehension of simple texts. Improvement of professional language. European leve	el 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/he	r free time and sp	eaking abou	ıt them. Writii	ng in a sim	ple way about
familiar topics. Readi	ng 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/he	r free time and sp	eaking abou	ıt them. Writii	ng in a sim	ple way about
familiar topics. Readi	ng and comprehension of simple texts. Improvement of professional language.					
2043082	German - Lower Intermediate Course				Z	2
Mapped to the level of	of Common European Framework of Reference A2 Aim: Understanding clearly spoken langua	ge about everyda	y situations	which a stud	ent meets	either at schoo
or in his/her free time	e and speaking about them. Writing in a simple way about familiar topics. reading and compre	hesion of simple	texts. Improv	ement of pro	fessional l	anguage.
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/he	r free time and sp	eaking abou	ıt them. Writii	ng in a sim	ple way about
familiar topics. Readi	ng and comprehension of simple texts. Improvement of professional language.					
2043084	Spanish - Preparatory Course / FME				Z	2
Aim: Understanding	clearly what is spoken about everyday situations which a student meets at school or in his/he	r free time and sp	eaking abou	t them. Writin	ng in a sim	ple way about
familiar topics. Readi	ng 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 (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	Spanish - Master Exam / FME Michaela Schusová, Jaime Andrés Villagómez Eliška Vítková 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

Characteristics of the courses of this group of Study Plan: Code=12N "SQJZ Name=2012 N 3.sem povinna jazykova zkouska								
2041081	English - Master Exam	ZK	1					
Mapped to the level of 0	Common European Framework of Reference: A2. Aim: Understanding clearly what is spoken about everyday situations which	n 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 professional lar	nguage.					
2041086	Czech- Master Exam	ZK	1					
2041083	French - Master Exam / FME	ZK	1					
Mapped to the level of C	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 Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a student meets 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 Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a student meets either 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 of professional language.

2041084 | Spanish - Master Exam / FME

ZK |

Mapped to the level of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a student meets either 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 of professional language.

Code of the group: 12NS*1Q-AME

Name of the group: 2012 NSTI 1.sem 1povvol AME Projekt I.

Requirement credits in the group: In this group you have to gain 5 credits

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

Credits in the group: 5 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
2113111	Project I. Miroslav Španiel Miroslav Španiel (Gar.)	Z	5	0P+5C	*	PV
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	*	PV
2123111	Project I. Tomáš Hyhlík (Gar.)	Z	5	0P+5C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12NS*1Q-AME Name=2012 NSTI 1.sem 1povvol AME Projekt I.

2113111	Project I.	Z	5
2313111	Project I.	Z	5
2123111	Project I.	Z	5

The aim of the course for the students is to apply their knowledge of mechanics, elasticity and strength and fluid mechanics to a complex task consisting in design of controlled mechanism according to required function, dimensioning of selected member in terms of stiffness and durability, environmental assessment and control design. The student is led to master a suitable combination of analytical and numerical methods. At the same time, topics from subjects taught in the 1st semester of the program are discussed within the contact hours.

Code of the group: 12NS*2Q-AME

Name of the group: 2012 NSTI 2.sem 1povvol AME Projekt II.

Requirement credits in the group: In this group you have to gain 5 credits

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

Credits in the group: 5 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
2113112	Project II. Miroslav Španiel, Karel Doubrava, Michal Bartošák, Karel Vítek, Martin Nesládek, Milan R ži ka, Ji í Kuželka, Zden k Padovec, Tomáš Mareš, Ctirad Novotný Miroslav Španiel (Gar.)	Z	5	0P+5C	*	PV
2313112	Project II. Jan Pelikán, Václav Bauma, Zbyn k Šika, Michael Valášek, Jan Zav el, Pavel Steinbauer, Ctirad Novotný Zbyn k Šika Zbyn k Šika (Gar.)	Z	5	0P+5C	*	PV
2123112	Project II. Michal Schmirler (Gar.)	Z	5	0P+5C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12NS*2Q-AME Name=2012 NSTI 2.sem 1povvol AME Projekt II.

2113112	Project II.	Z	5
2313112	Project II.	Z	5
2123112	Project II.	Z	5

The aim of the course for student is to solve the technical task assigned according to his specialization and focus. The task is focused on more advanced work with contemporary means of engineering analysis from commercial programs of FEM and fluid analysis, through Matlab to creation of in-house programs. The project continues and extends the knowledge acquired in subjects taught in the 2nd semester.

Code of the group: 12NS*3Q-AME

Name of the group: 2012 NSTI 3.sem 1povvol AME Projekt III.

Requirement credits in the group: In this group you have to gain 18 credits

Requirement courses in the group: In this group you have to complete 5 courses

Credits in the group: 18

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
2113113	Project III. Miroslav Španiel, Karel Doubrava, Michal Bartošák, Karel Vítek, Martin Nesládek, Milan R ži ka, Ji í Kuželka, Zden k Padovec, Tomáš Mareš, Miroslav Španiel (Gar.)	Z	10	0P+10C	*	PV
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	*	PV
2123113	Project III. Michal Schmirler Tomáš Hyhlík (Gar.)	Z	10	0P+10C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12NS*3Q-AME Name=2012 NSTI 3.sem 1povvol AME Projekt III.

2113113	Project III.	Z	10
2313113	Project III.	Z	10
Individual asignment			
2123113	Project III.	Z	10

This project is understood as preparation for the diploma thesis. The topic of the project and the way of its realization and the scope of the work is given by the pre-determined head of the thesis so that the student can follow it in his / her thesis. Completion of the project must always be verified by submitting a written report. Typically the project work can include: state of the art research acquiring theoretical and practical materials by compilation of literature, by visiting optional lectures, taking from potential partners. mastering the means for numerical or experimental modeling preparation and realization of experiments preparation of numerical models programming and more

Code of the group: 12NS*4Q-AME

Name of the group: 2012 NSTI 4.sem 1povvol AME Diplomová práce

Requirement credits in the group: In this group you have to gain 10 credits

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

Credits in the group: 10 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
2113998	Diploma Project Miroslav Španiel, Karel Doubrava, Michal Bartošák, Karel Vítek, Martin Nesládek, Milan R ži ka, Ji í Kuželka, Zden k Padovec, Tomáš Mareš, Tomáš Mareš Miroslav Španiel (Gar.)	Z	10	0P+10C	*	PV
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	*	PV
2123998	Diploma Thesis Michal Schmirler Michal Schmirler (Gar.)	Z	10	0P+10C	*	PV

Characteristics of the courses of this group of Study Plan: Code=12NS*4Q-AME Name=2012 NSTI 4.sem 1 povvol AME Diplomová práce

2113998	Diploma Project	Z	10
2313998	Diploma project	Z	10
individual assignment		•	
2123998	Diploma Thesis	Z	10
The diploma thesis is a final independent work examining the ability of independent logical technical thinking, orientation in the given problem, work with technical documents and			
application of acquire	d theoretical knowledge of students, which ends by submitting a written work in the prescribed format.		

List of courses of this pass:

Code	Name of the course	Completion	Credits
2013054	Mathematics for Mechanics	Z	4

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.

2041081	English - Master Exam	ZK	1
	English - Master Exam el of Common European Framework of Reference: A2. Aim: Understanding clearly what is spoken about everyday situations which a	I	chool or in
	ne and speaking about them. Writing in a simple way about familiar topics. Reading and comprehension of simple texts. Improvement		
2041082	German - Master Exam / FME	ZK	1
	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a		
	e time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvement		anguage.
2041083	French - Master Exam / FME	ZK	1
	el of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a e time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemen		
2041084	Spanish - Master Exam / FME	ZK	1
	el of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a	I	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. Improvement	nt of professional la	anguage.
2041085	Russian - Master Exam / FME	ZK	1
	el of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a		
2041086	e time and speaking about them. Writing in a simple way about familiar topics. reading and comprehesion of simple texts. Improvemen Czech- Master Exam	ZK	anguage.
2043081	English - Preparatory Course / FME	7 ZN	2
	English - Freparatory Course / Five g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	_	
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language. European level A1 - A2		,
2043082	German - Lower Intermediate Course	Z	2
	of Common European Framework of Reference A2 Aim: Understanding clearly spoken language about everyday situations which a		
	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	
2043083	French - Preparatory Course / FME	Writing in a simple	2
Aim: Understandir	ng clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them. familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	writing in a simple	way about
2043084	Spanish - Preparatory Course / FME	7	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.	_	-
	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.		
2043085	Russian - Preparatory Course / FME	Z	2
Aim: Understandir	ng 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	way about
2042006	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	7	2
2043086 Aim: Understandir	Czech - Preparatory Course g clearly what is spoken about everyday situations which a student meets at school or in his/her free time and speaking about them.	_	l
7 tim. Ondorotanan	familiar topics. Reading and comprehension of simple texts. Improvement of professional language.	vviiling in a cimple	way about
2111035	Finite Element Method II.	ZK	3
2111035 2111049	Finite Element Method II. Theory of elasticity	ZK ZK	4
2111049 The objective of thi	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid med	ZK hanics courses suc	4 ch as theory
2111049 The objective of thi of plasticity, fractu	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition	ZK hanics courses such as of stress and stra	4 ch as theory ain tensors
2111049 The objective of thi of plasticity, fracture used in the linear	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor	ZK chanics courses such a strain of stress and strain or, postulates the co	4 ch as theory ain tensors constitutive
2111049 The objective of thi of plasticity, fractuused in the linear relations for linear	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equations.	ZK chanics courses such as of stress and straction, postulates the coon expressed in te	4 ch as theory ain tensors constitutive rms of the
2111049 The objective of thi of plasticity, fractu used in the linea relations for linea displacement vec	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor	ZK chanics courses such as of stress and straction, postulates the coon expressed in tendrical coordinate.	4 ch as theory ain tensors constitutive rms of the systems is
2111049 The objective of thi of plasticity, fractuused in the linear relations for lineadisplacement vectorsidered andthe in the form of a pure state of the considered and the considered and the form of a pure state of the considered and the	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medium mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition reflectively, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentration.	ZK chanics courses such as of stress and strain, postulates the colon expressed in tendrical coordinate cusing the Airy streated vertical force as	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a
2111049 The objective of thi of plasticity, fractuused in the linear relations for lineadisplacement vectorsidered andthe in the form of a pure state of the considered and the considered and the form of a pure state of the considered and the	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition reflective theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate poundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in	ZK chanics courses such as of stress and strain, postulates the colon expressed in tendrical coordinate cusing the Airy streated vertical force as	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors and the in the form of a phorizontal straight line objects.	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling early stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate oppoundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces.	ZK chanics courses such as of stress and strain, postulates the colon expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics in	4 ch as theory ain tensors constitutive rms of the systems is eas function action on a s presented
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors of the form of a public placement of the form of the f	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate oboundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics	ZK thanics courses such as of stress and stress, postulates the colon expressed in tendrical coordinate ausing the Airy streated vertical force and solid mechanics in SK	4 ch as theory ain tensors onstitutive rms of the systems is ess function action on a is presented
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors of the form of a public placement of a publi	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition reference of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate occurrency of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals	ZK hanics courses such soft stress and stress of stress and stress, postulates the coon expressed in tendrical coordinate using the Airy streated vertical force and solid mechanics in the stress of	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a s presented 4 3
2111049 The objective of thi of plasticity, fracture used in the linear relations for linear displacement vectorsidered andthe in the form of a phorizontal straight I 2111083 2113017 2113111	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid median emechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate doundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project I.	ZK thanics courses sur s of stress and stra r, postulates the co on expressed in te ndrical coordinate using the Airy stra atted vertical force a n solid mechanics i	4 ch as theory ain tensors constitutive rms of the systems is ses function action on a s presented 4 3 5
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors idered and the in the form of a phorizontal straight I 2111083 2113017 2113111 2113112	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mediate mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate operation of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project I. Project II.	ZK thanics courses sures of stress and stress, postulates the coon expressed in tendrical coordinate using the Airy streated vertical force an solid mechanics in ZK Z Z Z	4 ch as theory ain tensors constitutive rms of the systems is ses function action on a as presented 4 3 5 5
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate object, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project I. Project II. Project III.	ZK thanics courses such sof stress and stress and stress, postulates the coordinate course such at the coordinate course such a solid mechanics in the solid mechanics in the stress at the solid mechanics in	4 ch as theory ain tensors constitutive rms of the systems is ses function action on a s presented 4 3 5 5 10
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors idered and the in the form of a phorizontal straight I 2111083 2113017 2113111 2113112	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mediate mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate operation of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project I. Project II.	ZK thanics courses sures of stress and stress, postulates the coon expressed in tendrical coordinate using the Airy streated vertical force an solid mechanics in ZK Z Z Z	4 ch as theory ain tensors constitutive rms of the systems is ses function action on a as presented 4 3 5 5
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a kirry stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate object of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project	ZK thanics courses such sof stress and stress and stress and stress and stress are stressed in terms on expressed in terms attended to the stressed in the stressed in the stressed in solid mechanics in solid mechanics in the stressed in t	4 ch as theory ain tensors constitutive rms of the systems is ass function action on a as presented 4 3 5 10 10 4
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject a description methor	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a Airy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate outling, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of the official dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow characteristics.	ZK thanics courses such sof stress and stress and stress and stress, postulates the coordinate such a stress and stress and stress are solid mechanics in solid mecha	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a is presented 4 3 5 10 10 4 tics, various essible flow.
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject a description method	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medium emechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition in theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a kirp stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam oblynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate oboundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely or dis of fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow character Computational Fluid Mechanics	ZK thanics courses such sof stress and stress of stress and stress, postulates the colon expressed in tendrical coordinate susing the Airy streated vertical force an solid mechanics in Solid mechanics in ZK Z Z Z ZK n fluids characteristristics for incompress	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 10 10 4 tics, various essible flow.
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject a description method	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor elastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a kiry stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam obynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate obundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely or displacements and its stability and complex flow characted Computational Fluid Mechanics and sthe knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placed	ZK thanics courses such sof stress and stress of stress and stress, postulates the colon expressed in tendrical coordinate susing the Airy streated vertical force an solid mechanics in	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 10 10 4 tics, various essible flow.
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject a description method 2121043 This course exter	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a chiry stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate doroce at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of das of fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow character Computational Fluid Mechanics and sthe knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placer inciples of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic	ZK thanics courses sure s of stress and stre or, postulates the co on expressed in te ndrical coordinate in using the Airy stre ated vertical force a on solid mechanics in ZK Z Z Z Z Z Z Z Z Z Z Z Z	4 ch as theory ain tensors constitutive rms of the systems is ses function action on a s presented 4 3 5 10 10 4 tics, various essible flow. 4 g the basic
2111049 The objective of thi of plasticity, fracti used in the linea relations for linea displacement vec considered andthe in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject a description method 2121043 This course extering the straight I 211055	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor elastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a kiry stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam obynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate obundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely or displacements and its stability and complex flow characted Computational Fluid Mechanics and sthe knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placed	ZK thanics courses such as of stress and stress of stress and stress, postulates the colon expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics in solid mechanics in the coordinate and solid mechanics in the coordinate a	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a is presented 4 3 5 10 10 4 tics, various essible flow. 4 g the basic
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors idea of the form of a phorizontal straight of the form of the form of the country of the form of	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid medure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition r theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic and the students of the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate or concentrate force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of distriction of the students knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. E	ZK thanics courses such sof stress and stress of stress and stress, postulates the colon expressed in tendrical coordinate stress and stress are solid mechanics in s	4 ch as theory ain tensors constitutive rms of the systems is ess function action on a is presented 4 3 5 10 10 4 tics, various essible flow. 4 g the basic
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors idea of the form of a phorizontal straight of a consideration of the straight of the form of the country of the form of the	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition retearchanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition retearchanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition retearch of the stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling a hirsy stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distribution in a plate with small circular hole submitted to a uniform tension, the stress distribution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project II. Project III. Project III. Project III. Propect III. Pr	ZK thanics courses sures of stress and stress, of stress and stress, or, postulates the coron expressed in tendrical coordinate using the Airy streated vertical force an solid mechanics of the stress of the stres	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 10 10 4 tics, various sessible flow. 4 3 the basic
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors ideal and the in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject addescription method 2121043 This course extern process of the study subject and the country of the study subjects and the country of the study subjects and the study subjects are study subjects.	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mecure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition report of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tense or elastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylic a kny stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate opoundary, the stress distibution in a vedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focused namely of the stream of the knowledge gained in the course of Fluid Mechanics about the knowledge of computational fluid dynamics. Emphasis is placerinciples of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic Thermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real pas thermotermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat engines and mermodynamics, multiphase- and multicomponent system characteristics and the	ZK thanics courses such as of stress and stress of	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 10 10 4 tics, various sessible flow. 4 3 the basic 4 generalizes
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors in the form of a phorizontal straight of the form of a phorizontal straight of the first of the study subject of the first of the first of the findings in the first of the first	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mec are mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition in theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor in theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor in the strestic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation is cartesian and cylin and the Beltrami-Michell's equation is problems in cartesian and cylin and the Beltrami-Michell's equation is an incomplement of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the principles of tensors. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics and the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of the did dynamics. Emphasis is placer inci	ZK thanics courses sures of stress and stress, of stress and stress, or, postulates the corn expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics of the stress of the solid mechanics of the stress of	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 5 10 10 4 tics, various essible flow. 4 the basic 4 generalizes sional flows.
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors in the form of a phorizontal straight of the first of the fi	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid med are mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin are arrived in the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate opoundary, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate opoundary, the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely or dis of fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow characteristics of computational fluid dynamics. Emphasis is placer inciples of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic risc place of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic risc is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the re	ZK thanics courses sures of stress and stress, of stress and stress, or postulates the corn expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics of the stress of the solid mechanics of the stress of t	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 5 10 10 4 tics, various essible flow. 4 9 the basic 4 generalizes sional flows. 2
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors in the form of a phorizontal straight of the first of the study subject of the study subject of the study subject of the study subject of the first of the study subject of the findings in the course of the study subject of the study	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mec are mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition in theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor in theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor in the strestic and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylin and the Beltrami-Michell's equation is cartesian and cylin and the Beltrami-Michell's equation is problems in cartesian and cylin and the Beltrami-Michell's equation is an incomplement of the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the stress distibution in a wedge due to a concentrated force at its apex. Finally, a brief introduction to the energy principles including the principles of tensors. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics and the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of the did dynamics. Emphasis is placer inci	ZK thanics courses sures of stress and stress, of stress and stress, on expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics of the stress of th	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 5 10 10 4 tics, various essible flow. 4 the basic 4 generalizes sional flows. 2
2111049 The objective of thi of plasticity, fractured in the linear relations for linear displacement vectors in the form of a phorizontal straight of the first of the study subject of the study subject of the study subject of the study subject of the first of the study subject of the findings in the course of the study subject of the study	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mec are mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition or theory of elasticity, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylii expresses function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate or a concentrated force at its apex. Finally, a brief introduction to the energy principles in including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of the soft official dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow characte Computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic set is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the real pas thermomermodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat engines and memory arms to expand the students' knowledge gained from the previous Alfa versions of the bachelors subjects	ZK thanics courses sures of stress and stress, of stress and stress, on expressed in tendrical coordinate ausing the Airy streated vertical force an solid mechanics of the stress of th	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 5 10 10 4 tics, various essible flow. 4 the basic 4 generalizes sional flows. 2
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors in the form of a phorizontal straight linear line	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity, It also provides the foundation for pursuing other solid med ure mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition rue mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition rue mechanics, composite structures, theory of plates and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cylii by any stress function is introduced for the solution of these problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate force at its apex. Finally, a brief introduction to the energy principles including, the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of ds of fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow characteristics of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic Thermodynamics rese is to expand the students' knowledge gained from the previous course Thermomechanics Alfa in the areas of the real gas thermo remodynamics, multiphase- and multicomponent system characteristics and thermodynamics cycles of the real heat en	ZK thanics courses such as of stress and stress of stress of the conformal stress of the conform	the as theory ain tensors constitutive rms of the systems is ass function action on a is presented 4 3 5 10 10 4 tics, various essible flow. 4 generalizes sional flows. 2 rationary, 5 mechanism
2111049 The objective of thi of plasticity, fractive used in the linear relations for linear displacement vectors ideal and the in the form of a phorizontal straight I 2111083 2113017 2113111 2113112 2113113 2113998 2121016 The study subject adescription method description method 2121043 This course extern phorizontal straight I 2121055 The aim of the count the count of the study subjects the findings in the 2123018 The course extern phorizontal straight I 2121056 The study subjects the findings in the 2123018 The course external straight I 2123111 The aim of the count according to required.	Theory of elasticity s course is an introduction to the theory and applications of linear elasticity. It also provides the foundation for pursuing other solid mec use mechanics, composite structures, theory of plates and shells or continuum mechanics. This course introduces the basic definition reflective, determines the principal stress and strain, derives equilibrium equations, compatibility conditions for strain tensor relastic material (generalized Hooke's law). The governing differential equations of elasticity are derived including the Navier's equation and the Beltrami-Michell's equation expressed in terms of the stress tensor. Next, two-dimensional problems in cartesian and cyling the problems. A few useful application are studied such as bending of a beam olynomial, the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate outly of the stress distibution in a plate with small circular hole submitted to a uniform tension, the stress distibution for a concentrate force at its apex. Finally, a brief introduction to the energy principles including the principles of virtual displacements and virtual forces. Continuum Mechanics Basic of Engineering Experimentals Project II. Project II. Project III. Diploma Project Theoretical Fluid Mechanics aim is to expand the students knowledge gained from the previous subject Thermomechanics Alfa. The attention is focussed namely of destination of the students with the submitted of the submitted problems of internal and complex flow character and soft fluid dynamics under low and high Re number values, boundary layer characteristics and its stability and complex flow character stores of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic stability and complex flow characteristics of computational fluid dynamics based on using commercial codes. Selected problems of internal and external aerodynamic rinciples of computational fl	ZK thanics courses such as of stress and stress of stress of the conformal stress of the conform	the as theory ain tensors constitutive rms of the systems is sess function action on a spresented 4 3 5 5 10 10 4 tics, various essible flow. 4 tible process 4 generalizes sional flows. 2 ationary, 5 mechanism or master a

2123112	Project II.	Z	5
The aim of the co	ourse for student is to solve the technical task assigned according to his specialization and focus. The task is focused on more advan	ced work with conf	temporary
means of engineer	ing analysis from commercial programs of FEM and fluid analysis, through Matlab to creation of in-house programs. The project continu	ies and extends the	e knowledge
	acquired in subjects taught in the 2nd semester.		
2123113	Project III.	Z	10
	derstood as preparation for the diploma thesis. The topic of the project and the way of its realization and the scope of the work is give		
	at the student can follow it in his / her thesis. Completion of the project must always be verified by submitting a written report. Typically		
state of the art res	search acquiring theoretical and practical materials by compilation of literature, by visiting optional lectures, taking from potential part	-	e means for
	numerical or experimental modeling preparation and realization of experiments preparation of numerical models programming ar		
2123998	Diploma Thesis	Z	10
The diploma thes	sis is a final independent work examining the ability of independent logical technical thinking, orientation in the given problem, work w		ments and
	application of acquired theoretical knowledge of students, which ends by submitting a written work in the prescribed forma		
2141093	Microelectronics	Z,ZK	3
Basic characteristi	cs of logic circuits and programmable logical systems, input and output circuits - voltage and current matching, D/A and A/D converted	rs, coding, lines ar	nd protocols
0.1.100.07	of communications, electronic and optoelectronic parts for microelectronics, microprocessor system applications.	1/7	
2142027	Electrical Engineering for Applied Mechanics	KZ	3
	e course is to give the student knowledge about different types of electrical drives for mechatronic systems and their practical use. Mo		-
	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. Mat		
motion. DC moto	static and dynamic properties. Using MATLAB for drivers behaviour modelling.	iematicai descripti	ion or men
2311019	Synthesis and Optimization of Mechanical Systems	ZK	3
2311074	Vibrations of Mechanical Systems	ZK	4
2311074	Mechanics of Mechanisms	ZK	4
2311076	Simulation of Mechatronic Systems	ZK	3
2311079	Statistical Mechanics	ZK	4
2311084	Advanced Dynamics	ZK	3
2311091	System Identification	ZK	3
2312017	Controlled mechanical systems I.	KZ	3
2313111	Project I.	Z	5
2313112	Project II.	Z	5
2313113	Project III.	Z	10
	Individual asignment	_	1
2313998	Diploma project	Z	10
	, , ,	_	
	individual assignment		
2383062	Budget and Project Economic Assessment	7	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. 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 http://bilakniha.cvut.cz/en/FF.html Generated: day 2025-07-02, time 02:03.