PROGRAMME OF EDUCATION

FACULTY: MECHANICAL AND POWER ENGINEERING

MAIN FIELD OF STUDY: POWER ENGINEERING

in area of technical science

EDUCATION LEVEL: 2nd level, Master of Science

FORM OF STUDIES: full-time

PROFILE: general academic

SPECIALIZATION: **REFRIGERATING, HEATING AND AIR-CONDITIONING**

LANGUAGE OF STUDY: polish

Content:

Faculty Council Resolution of 30.09.2015

In effect since 01.10.2015

PROGRAMME OF STUDIES

1. Description

Number of semesters: 3	*Number ECTS points necessary to obtain qualifications:* 90
Prerequisites (particularly for second-level studies): 1st level qualifications and engineering skills necessary to continue education at 2nd level studies: knowledge of physics and mathematics that enables understanding of the fundamentals of physical phenomena used in the energetics and formulating and solving simple design tasks in the field of energetics, knowledge and skills in the field of mechanics, electronics, electrical , materials, metrology, fluid mechanics, thermodynamics and the basics of machine design, enabling taking of measurements, analysis and design of simple components and power systems, the ability to use to formulate and solve engineering tasks, and methods and experimental design, knowledge and skills in methods and techniques design, enabling the formulation of a simple engineering problem and develop the solution using appropriate computational tools, skills of interpretation, presentation and documentation of the experiment, and the presentation and documentation of the project tasks.	*Upon completion of studies graduate obtains* *professional degree of:* Master of Science 2nd level qualifications
Possibility of continuing studies: 3rd level doctoral studies	*Graduate profile, employability:* Graduate has a knowledge and skills in the field of advanced technologies and processes, and methods for testing the operation of machinery and equipment in the energy industry and related industries. Is prepared for design, optimization and implementation of new energy technologies, in particular in the field of thermal comfort in rooms. Is prepared to work with government authorities and independent economic activity in terms of the functioning of the energy market and the implementation of the principle of sustainable development. He knows a foreign language at level B2 + and a second foreign language at A1 or A2 level.

Indicate connection with University's mission and its development strategy:	The program of education is consistent with the mission of the University in the transfer of knowledge and skills to maintain high quality of education and the development of creative, critical and tolerant personality of students by developing and nurturing a strong sense of academic community based on communication and social rights of students and employees.

2. **Fields of science and scientific disciplines to which educational effects apply:** technical science

3. **Concise analysis of consistency between assumed educational effects and labour market needs:** The expected education effects provide engineering competencies gained on the first level of education, especially in terms of knowledge and skills, with particular emphasis on creativity in solving specific technical problems. The programme of education equips graduates with the attributes enabling him to adapt to the rapidly changing requirements of the job market.

4. List of education modules:

4.1. List of obligatory modules:

4.1.1. List of general education modules

4.1.1.1. *Liberal-managerial subjects* module *(min. 3 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN0367	Marketing and Management	2					K2ENG_W06	30	90	3	1,5	T	Z			KO	Ob
		Total	2						30	90	3	1,5						

Altogether for general education modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
2					30	90	3	1,5

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

4.1.2. List of basic sciences modules

4.1.2.1. *Mathematics* module

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN0905	Probability theory	2					K2ENG_W01	30	90	3	1,5	T	E			PD	Ob
2	ESN0905	Probability theory		1				K2ENG_U05	15	30	1	0,75	T	Z		P	PD	Ob
3	ESN0502	Numerical methods	2					K2ENG_W02	30	90	3	1,5	T	E			PD	Ob
4	ESN0502	Numerical methods			2			K2ENG_U06	30	60	2	1,5	T	Z		P	PD	Ob
		Total	4	1	2				105	270	9	5,25						

4.1.2.2. *Physics* module

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN0200	Quantum Physics	2					K2ENG_W03	30	90	3	1,5	T	E			PD	Ob
		Total	2						30	90	3	1,5						

Altogether for basic sciences modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
6	1	2			135	360	12	6,75

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

4.1.3. List of main-field-of-study modules

4.1.3.1. *Obligatory main-field-of-study* module

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN0553	Mathematical Modelling of Energy Generation Installations	2					K2ENG_W05	30	60	3	1,5	T	E			K	Ob
2	ESN0553	Mathematical Modelling of Energy Generation Installations			4			K2ENG_U07	60	120	2	1,5	T	Z		P	K	Ob
3	ESN1115	New Generation Energy Technologies	2					K2ENG_W04	30	90	3	1,5	T	E			K	Ob
4	ESN1062	Energy Systems	2					K2ENG_W07	30	60	2	1	T	Z			K	Ob
5	ESN1062	Energy Systems		1				K2ENG_U08	15	30	1	0,75	T	Z		P	K	Ob
6	ESN1300	Environmental Management	2					K2ENG_W06 K2ENG_K03	30	60	2	1	T	Z			K	Ob
7	ESN1380	Diploma Seminar					2	K2ENG_U01 K2ENG_U02 K2ENG_K01 K2ENG_K03 K2ENG_K04 K2ENG_K05	30	60	2	1,5	T	Z		P	K	Ob
		Total	8	1	4		2		225	480	15	8,75						

Altogether (for main-field-of-study modules):

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
8	1	4		2	225	480	15	8,75

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

4.2. List of optional modules:

4.2.1. List of general education modules

4.2.1.1. *Liberal-managerial subjects* module *(min. 2 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	HSH100400BK	Humanities Course	1					K2ENG_W06 K2ENG_K02	15	60	2	1	T	Z	O		KO	W
		Total	1						15	60	2	1						

4.2.1.2. *Foreign languages* module *(min. 3 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	JZL100655BK	Foreign Language (continue) B2+ level		1				K2ENG_U04	15	30	1	0,75	T	Z	O	P	KO	W
2	JZL100710BK	Foreign Language (second), any level		3				K2ENG_U09	45	60	2	1,5	T	Z	O	P	KO	W
		Total		4					60	90	3	2,25						

4.2.1.1. *Sporting classes* module *(min. 1 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	WFW010000BK	Sporting Classes		1				K2ENG_K06	15	15	1	1	T	Z	O		KO	W
		Total		1					15	15	1	1						

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

Altogether for general education modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
1	5				90	165	6	4,25

4.2.2. List of main-field-of-study modules

4.2.2.1. *Individual master of science project* module *(min. 4 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN1364	Master Individual Student Project				4		K2ENG_U01 K2ENG_U03 K2ENG_K04 K2ENG_K05	60	120	4	1	T	Z		P	K	W
		Total				4			60	120	4	1						

4.2.2.2. *Master of science diploma dissertation* module *(min. 20 ECTS points):*

No.	Course/group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly number of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN1430	Master Thesis						K2ENG_U01 K2ENG_U02 K2ENG_U03 K2ENG_K01 K2ENG_K04 K2ENG_K05		600	20	4	T	Z		P	K	W
		Total								600	20	4						

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z - enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

Altogether for main-field-of-study modules:

Total number of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
			4		60	720	24	5

4.2.3. List of specialization modules

4.2.3.1 ***Specialization subjects*** **module** *(min. 30 ECTS points)*

No	Course/ group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly umer of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
1	ESN0241	Heat Management	1					S2CCK_W02	15	30	1	0,5	T	Z			S	W
2	ESN0241	Heat Management		1				S2CCK_U02	15	30	1	0,75	T	Z		P	S	W
3	ESN1152	Thermodynamic Basis of Heating Engineering	2					S2CCK_W10	30	60	2	1	T	Z			S	W
4	ESN1073	Refrigerating Systems	2					S2CCK_W01	30	60	2	1	T	Z			S	W
5	ESN1073	Refrigerating Systems		1				S2CCK_U08	15	30	1	0,75	T	Z		P	S	W
6	ESN1073	Refrigerating Systems			2			S2CCK_U01	30	60	2	1,5	T	Z		P	S	W
7	ESN1024	Sorption Energetic Systems	2					S2CCK_W06	30	60	2	1	T	Z			S	W
8	ESN1024	Sorption Energetic Systems		1				S2CCK_U03	15	30	1	0,75	T	Z		P	S	W
9	ESN1024	Sorption Energetic Systems				1		S2CCK_U07	15	30	1	0,75	T	Z		P	S	W
10	ESN0557	Heat Carriers and Accumulators	1					S2CCK_W11	15	30	1	0,5	T	Z			S	W
11	ESN0303	Pollutants Emission Control	1					S2CCK_W04	15	30	1	0,5	T	Z			S	W
12	ESN0303	Pollutants Emission Control			1			S2CCK_U05 K2ENG_K03	15	30	1	0,75	T	Z		P	S	W
13	ESN0251	Installations for Environment Protection – Optimalization and Exploitation	1					S2CCK_W08	15	30	1	0,5	T	Z			S	W
14	ESN0251	Installations for Environment Protection – Optimalization and Exploitation					1	S2CCK_U09 K2ENG_K01 K2ENG_K02 K2ENG_K03	15	30	1	0,75	T	Z		P	S	W

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z – enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

No	Course/ group of courses code	Name of course/group of courses (denote group of courses with symbol **GK**)	Weekly umer of hours					Field-of-study educational effect symbol	Number of hours		Number of ECTS points		Form[2] of course/ group of courses	Way[3] of crediting	Course/group of courses			
			lec	cl	lab	pr	sem		ZZU	CNPS	total	BK classes[1]			university-wide[4]	practical[5]	kind[6]	type[7]
15	ESN1074	Power Systems Based on Renewable and Waste Energy	1					S2CCK_W09	15	30	1	0,5	T	Z			S	W
16	ESN1074	Power Systems Based on Renewable and Waste Energy		1				S2CCK_U06	15	30	1	0,75	T	Z		P	S	W
17	ESN1246	Ventilation and Air-conditioning	1					S2CCK_W07	15	30	1	0,5	T	Z			S	W
18	ESN1246	Ventilation and Air-conditioning			1			S2CCK_U11	15	30	1	0,75	T	Z		P		W
19	ESN0276	Heating and Air-condition Installation	1					S2CCK_W03	15	30	1	0,5	T	Z			S	W
20	ESN0276	Heating and Air-condition Installation			1			S2CCK_U11	15	30	1	0,75	T	Z		P	S	W
21	ESN0276	Heating and Air-condition Installation					1	S2CCK_U04	15	30	1	0,75	T	Z		P	S	W
22	ESN0277	Cryogenic Installations	2					S2CCK_W12	30	60	2	1	T	Z			S	W
23	ESN0277	Cryogenic Installations				1		S2CCK_U12	15	30	1	0,75	T	Z		P	S	W
24	ESN0822	Heat Pumps and Heat Transformers	1					S2CCK_W05 K2ENG_K02	15	30	1	0,5	T	Z			S	W
25	ESN0822	Heat Pumps and Heat Transformers				1		S2CCK_U10	15	30	1	0,75	T	Z		P	S	W
		Total	16	4	5	3	2		450	900	30	18,5						

Altogether for specialization modules:

Total umer of hours					Total number of ZZU hours	Total number of CNPS hours	Total number of ECTS points	Number of ECTS points for BK classes[1]
lec	cl	lab	pr	sem				
16	4	5	3	2	450	900	30	18,5

[1]BK – number of ECTS points assigned to hours of classes requiring direct contact of teachers with students
[2]Traditional – enter T, remote – enter Z
[3]Exam – enter E, crediting – enter Z. For the group of courses – after the letter E or Z – enter in brackets the final course form (lec, cl, lab, pr, sem)
[4]University-wide course /group of courses – enter O
[5]Practical course / group of courses – enter P. For the group of courses – in brackets enter the number of ECTS points assigned to practical courses
[6] KO – general education, PD – basic sciences, K – field-of-studies, S – specialization
[7] Optional – enter W, obligatory – enter Ob

4.3. Diploma dissertation module

Type of diploma dissertation	magister	
Number of diploma dissertation semesters	**Number of ECTS points**	**Code**
1	**20**	**ESN1430**
Character of diploma dissertation		
Experimental/project/ literature survey		
Number of BK[1] ECTS points	**4**	

5. Ways of verifying assumed educational effects

Type of classes	Ways of verifying assumed educational effects
lecture	examination, final test
class	progress test, final test, tasks valuating
laboratory	pretest, report from laboratory
project	project defence
seminar	participation in discussion, topic presentation, essay
diploma dissertation	prepared diploma dissertation

6. Total number of ECTS points, which student has to obtain from classes requiring direct academic teacher-student contact (enter total of ECTS points for courses/groups of courses denoted with code BK[1])
44,75 ECTS

7. Total number of ECTS points, which student has to obtain from basic sciences classes

Number of ECTS points for obligatory subjects	12
Number of ECTS points for optional subjects	0
Total number of ECTS points	12

8. **Total number of ECTS points, which student has to obtain from practical classes, including laboratory classes** (enter total number of ECTS points for courses/group of courses denoted with code P)

Number of ECTS points for obligatory subjects	8
including laboratory classes and projects	4
Number of ECTS points for optional subjects	43
including:	
laboratory classes and projects	12
diploma dissertation	20
Total number of ECTS points	51

9. **Minimum number of ECTS points, which student has to obtain doing education modules offered as part of university-wide classes or other main field of study** (enter number of ECTS points for courses/groups of courses denoted with code OG)
6 ECTS points

10. **Total number of ECTS points, which student may obtain doing optional modules (min. 30% of total number of ECTS points)**
60 ECTS points (66,7 %)

11. **Range of the diploma exam**

1. Theoretical problems

1.1 Quantum phenomena in nature (blackbody radiation, photoelectric effect, mass defect in nuclear transformations)
1.2 Modeling of properties of the substance.
1.3 Modeling of energy conversion processes. Exergy analysis.
1.4 Irreversible processes in the refrigeration cycle. Thermodynamic analysis and graphical representation on phase diagrams.
1.5 Principles of increasing entropy in the refrigeration cycle.
1.6 Methods of balancing of low-temperature systems.
1.7 Phase transitions of homogeneous substances and mixtures.
1.8 Changes of physical and thermodynamic parameters that occur during phase transitions of the first and the second kind .
1.9 Two and multi-component solutions (based on eutectic mixtures).
1.10 Expansion of gases. Polytropic transitions of an ideal gas.
1.11 Joule-Thomson effect. Inversion curve.
1.12 The Linde's cooling cycle on p-v, T-s, log p-h diagrams; its parameters. The analytical and graphical description of internal and external losses.

2. Construction and technological problems

2.1 Compressors in refrigeration systems, their construction, operation, efficiency and performance, collaboration, connection methods.
2.2 Basic constructions of heat exchangers for vapor compression sorption, adsorption refrigeration systems, principles of their selection.
2.3 Refrigeration and air conditioning systems: direct, indirect, pressure, gravity and pump based - construction & applications.
2.4 Apparatus and heat exchangers for industrial absorption systems.
2.5 Refrigerators and freezers - methods of construction, heat balance, moisture penetration, choice of insulation, protecting soil from freezing in the cold store.
2.6 Heat pumps, construction and use, energy balance, the lower and upper heat source.
2.7 Analysis of the compression process in a multi-stage compressor.
2.8 Aspects of durability of heat exchangers in implementing systems transcritical cycles
2.9 Methods of elimination of the pollution produced during combustion from heat exchangers
2.10 Thermal calculations for cryogenic installations.
2.11 Regenerative heat exchangers in the Clausius-Rankine cycle.
2.12 Classification of liquefiers and cryogenic coolers based on the type of heat exchanger used.

3. Operational problems

3.1 Clean energy technologies.
3.2 Diagnostics, security and reliability of energy systems.
3.3 Energy Management Systems.
3.4 Energy markets – marketing strategies.
3.5 Environmental policy instruments that are used in the production of energy.
3.6 Heat and cold transfer fluids: glycols, saline, ice slurry.
3.7 The realistic vapor compression refrigeration cycle.
3.8 The realistic absorption refrigeration cycle.
3.9 Draw and describe the measurement system of a vapor compresion refrigerator.
3.10 Natural and synthetic refrigerants, physical, chemical and thermodynamic principles of selection, safety conditions.
3.11 Control of emissions – continuous and periodic measurements, measuring apparatus.
3.12 The problems of obtaining and maintaining cryogenic temperatures.
3.13 Adjustment of the operation of HVAC system.
3.14 Methods of control and regulation of parameters of the conditioned air.

12. Requirements concerning deadlines for crediting courses/groups of courses for all courses in particular modules

No.	*Course code*	*Name of course*	*Crediting by deadline of... (number of semester)*
	Faculty Council Resolution No 4/D/2008 of 19.09.2008	The condition for admission the student to the execution of the *master thesis* module is to pass all subjects in plan of studies in the semester prior to the semester of graduation	

13. Plan of studies (attachment no. 1)