Study course: Energy Management and Energy Efficiency

1. year – I. semester

NIa	Courses	Hours per week			ECTS
No. Courses	L	S	Е	Credits	
1	Mathematics I	4	-	3	8
2	Statics	2	-	3	5
3	Graphic Communications	2	-	2	4
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	5
6	Foreign Language I	2	1	0	3
	Total in semester	14	1	13	30

1. year - II. semester

N.L.	0	Hours per week			ECTS
No. Courses	L	S	Е	Credits	
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	1	4
-	Total in semester	15	-	12	30

2. year - III. semester

NI-	0	Hou	ECTS		
No. Courses	L	S	E	Credits	
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2	Dynamics and Oscillation	2	-	2	4
3	Machine Elements I	2	-	2	4
4	Basic of electrotechnics II	3	-	2	5
5	Basic of electroenergetics	2	-	2	5
6	Physics 1)	2		1	4
	Total in semester	14		13	30

2. year - IV. semester

No	Courses	Hours per week			ECTS
No. Courses	L	S	Е	Credits	
1	Thermodynamics	2	-	3	6
2	Fluid Mechanics	2	-	2	5
3	Machine Elements II	2	-	2	5
4	Electric machines	3	-	1	5
5	Basic elements of electroenergetic systems	2		2	5
6	Chemistry	2	-	1	4
	Total in semester	13		13	30

3. year – V. semester

Nie	Cauraaa	Hou	ECTS		
No. Courses	L	S	Е	Credits	
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical Mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
•	Total in semester	14	-	13	30

3. year - VI. semester

No.	Courses	Hou L	rs per wee S	ek E	ECTS Credits
1	The Energy Science: Principles and Technology Influence	2	-	2	7
2	Energy Consumption and Efficiency	2	-	2	4
3	Quality of Electric Energy Energy Efficiency in the	2	-	2	4
4	Construction Industry Elective course:	2	-	2	5
5	Power Plants Energy Transport	2	-	2	5
6	Final thesis Total in semester				F
		12		11	5 30

Study course: Energy Management and Energy Efficiency

1.year – I. semester

NIS		Ηοι	ECTS		
No. Course	L	S	Е	Credits	
1	Mathematics I	4	-	3	8
2	Statics	2	-	3	5
3	Graphic Communications	2	-	2	4
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	5
6	Foreign Language I	2	1	-	3
	Total in semester	14	1	13	30

1. year – II. semestar

N.L.	0	Hours per week			ECTS
No. Course	L	S	Е	Credits	
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
2	Programming	2	-	2	4
۵ ۵	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	2	4
0	Total in semester	15	-	12	30

2. year - III. semestar

No.	Course	Hou L	rs per wee S	k E	ECTS Credits
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2 3 4 5 6	Dynamics and Oscillation Machine Elements I Basic of electrotechnics II Basic of electroenergetics Physics 1) Total in semester	2 2 3 2 2 15	- - -	2 2 2 1 12	4 5 5 4 30

2. year – IV. semestar

Na		Hours per week			ECTS
No.	Course	Р	S	V	Credits
1	Thermodynamics	2	-	3	6
2	Fluid Mechanics	2	-	2	5
3	Machine Elements II	2	-	2	5
4	Electric machines	3	-	1	5
5	Basic elements of electroenergetic				
	Systems	2	-	2	5
6	Chemistry	-		_	Ũ
	Total in semester	2		1	4
		13		11	30

3. year – V. semestar

No.	Courses	Hours per week			ECTS
No. Courses	L	S	Е	Courses	
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical Mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
1	Total in semester	14	-	13	30

3. year – VI. semestar

0. yo					
No.	Courses	Hou L	rs per wee S	ek E	ECTS Courses
1	The Energy Science: Principles and Technology Influence	2	-	2	7
2	Energy Consumption and Efficiency	2	-	2	4
3 4	Energy Efficiency in the Construction Industry Power Plants	2	-	2	5
5	Transport energy	2	-	2	5
6	Quality of Electric Energy	2	-	2	5
	Total in semester	2	-	2	4
		12		11	30

4. year - VII. semestar

No	Courses	Hou	Hours per week		
No.	Courses	L	S	E	Courses
1	Electrical Lightening	2	-	2	8
2	Measurements and Simulation of Energetic Processes Managing Energy	2	-	2	4
3	Consumption Smart Electrical Installations	2	-	2	5
4	Electric Efficiency of Electrical	2	-	2	5
5	Machines and Devices Project	2	-	2	4
6	Total in semester	2		3	4
		12		13	30

4. year - VIII. semestar

4. yea	ai – viii. Seinesiai				
No.	Courses	Hours per week			ECTS Courses
1	Heating and Air conditioning	2	-	2	5
2	Cooling Devices	2	-	2	5
3	Electrical Efficiency in Industry	2	-	3	6
4	Environment Protecting Practice	2	-	2	5
5	Final Thesis	-	-	-	5
6		-	-	-	4

Total in semester

Study course: Maintenance of Power Plants

1. year – I. semester

No.	Course	Ηοι	ECTS		
INO.	Course	L	Ś	E	Credits
1	Mathematics I	4	-	3	8
2	Statics	2	-	3	5
3	Graphic Communications	2	-	2	4
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	5
6	Foreign Language I	2	1	-	3
	Total in semester	14	1	13	30

1. year - II. semester

No.	Course	Но	eek F	ECTS Credits	
1	Mathematics II		-	2	8
I		4	-	5	4
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of Electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	1	4
	Total in semester	15	-	12	30

2. year - III. semester

No.	Course	Hours per week			ECTS
No. Course	L	S	Е	Credits	
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2	Dynamics and Oscillation	2	-	2	4
3	Machine Elements I	2	-	2	4
4	Basic of electrotechnics II	3	-	2	5
5	Basic of electroenergetics	2	-	2	5
6	Physics 1)	2		1	4
	Total in semester	14		13	30

2. year - IV. semester

No.	Course	Hours per week			ECTS
No. Course	L	S	Е	Credits	
1	Thermodynamics	2	-	3	6
2	Fluid Mechanics	2	-	2	5
3	Machine Elements II	2	-	2	5
4	Electric machines	3	-	1	5
5	Basic elements of electroenergetic				
	systems Chemistry	2	-	2	5
6	Total in semester	2		1	4
		16		13	30

3. year – V. semester

No	Course	Hours per week			ECTS
No. Course	L	S	E	Credits	
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical Mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
,	Total in semester	14	-	13	30

3. year – VI. semester

Na	No. Course	Hours per week			ECTS
INO.		L	S	E	Credits
1	Maintenance	2	-	3	6
2	Power Plants	2	-	2	4
3	Energy Transport	2	-	2	4
4	Electrical Switching Devices	2	-	2	4
5	Monitoring and Maintenance of				
	Electro Energetic Systems Power Plants Projecting	2	-	2	5
6	Final thesis	2	-	3	3
1	Total in semester	14	-	17	4 30

Study course: Maintenance of Power Plants

1.year – I. semester

No.	Course	Hours per week			ECTS
	Course	L	S	Е	Credits
1	Mathematics I	4	-	3	8
2	Statics	2	-	3	5
3	Graphic Communications	2	-	2	4
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	5
6	Foreign Language I	2	1	-	3
	Total in semester	14	1	13	30

1. year – II. semester

No.	Course		Hours per week		
110.	Course	L	S	Е	Credits
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	1	4
	Total in semester	15	-	12	30

2. year - III. semester

No.	Course	F L	lours per v S	veek E	ECTS Credits
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2	Dynamics and Oscillation	2	-	2	4
3	Machine Elements I	2	-	2	4
4	Basic of Electrotechnics II	3	-	2	5
5	Basic of Electroenergetics	2	-	2	5
6	Physics	2		1	4
	Total in semester	14		13	30

2. year - IV. semester

No.

NO.	Course	H. L	ours per v	week E	ECTS Credits
1 2 3 4 5	Thermodynamics Fluid Mechanics Machine Elements II Electric machines Basic elements of	2 2 2 3	S - - - -	3 2 2 1	6 5 5 5
6	electroenergetic systems Chemistry Total in semester	2 2 16	-	2 1 13	5 4 30

3. year – V. semester

Ν	0	•
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110.	Course		Hours per week		
		L	S	Е	Credits
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical Mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
	Total in semester	14	-	13	30

3. year - VI. semeste	er
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No.					
	Course	F	lours per v	week	ECTS
		Р	S	V	Credits
1	Maintenance	2	-	3	6
2	Power Plants	2	-	2	4
3	Energy Transport	2	-	2	4
4	Electrical Switching Devices	2	-	2	4
5	Monitoring and Maintenance of Electro Energetic Systems	2	_	2	5
6	Power Plants Projecting	2		2	5
7	Project	2	-	3	3
	Total in semester	2	-	3	4
		14	-	17	30

4. year - VII. semester

No Course		Hours per week			ECTS
		Р	S	V	Credits
1	Turbines	2	-	2	5
2	Boilers	2	-	2	4
3	Technical Diagnostics	2	-	2	5
4.	Liability of Electroenergetical				
	Systems and Elements	2	-	2	5
5	Maintaining and Examination	-		-	Ũ
	of Electrical Equipment	0		0	-
6	Pump fans and Turbocompressors	2	-	2	5
7	Project	2	-	1	3
	Total in semester	0		0	0
		2		3	3
		14		14	30

	ear – VIII. semester				
No.	Course	L	Hours per w S	veek E	ECTS Credits
1.	Small Power Plants and Wind	2	-	2	5
2.	Turbines	2	-	2	4
3.	Technical Diagnostics II	2	-	2	5
4. 5.	Pressure Vessels and Piping Maintaining and Examination of Electric Installations	2	-	2	5
6.	Maintaining and Examination of Electric Machines	2	-	2	5
7.	Mechanical Systems and Components	2	-	1	3
	Total in Semester	2 14	-	3 14	3 30

Study course: Renewable Energy Sources

1. year – I. semester

No.	Courses	Hour	ECTS		
1 2 3 4 5 6	Mathematics I Statics Graphic Communications Basic Informatics Materials Foreign Language I Total in semester	L 4 2 2 2 2 2 14	S - - - - - 1 1	E 3 2 3 2 - 13	Credits 8 5 4 5 5 3 30

1. year – II. semester

No.	Courses	Hours per week			ECTS
	L	S	E	Credits	
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2-		2	5
6	Foreign Language II	2	-	1	4
	Total in semester	15	-	12	30

2. year - III. semester

No	Courses	Hours		s per week		
No.	Courses	L	S	E	Credits	
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8	
2	Dynamics and Oscillation	2	-	2	4	
3	Machine Elements I	2	-	2	4	
4	Basic of electrotechnics II	3	-	2	5	
5	Basic of electroenergetics	2	-	2	5	
6	Physics 1)	2		1	4	
	Total in semester	15		12	30	

2. year – IV. semester

No	0	Hours per week			ECTS
No.	Courses	Р	S	V	Credits
1	Thermodynamics	2	-	3	6
2	Fluid Mechanics	2	-	2	5
3	Machine Elements II	2	-	2	5
4	Electric machines	3	-	1	5
5	Basic elements of electroenergetic				
	systems Chemistry	2	-	2	5
6	Total in semester	2		1	4
		16		13	30

3. year – V. semester

Nia	No. Courses	Hours per week			ECTS
INO.		L	S	Е	Credits
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
ı	Total in semester	14	-	13	30

3. year – VI. semester

No.	Courses	Hou L	irs per wee S	k E	ECTS Credits
1	Energy Science: Principles and the Impact of Technology Small Power Plants and Wind	3	-	2	8
2	Turbines	2	-	2	5
3 4	Power Plants Elective courses: Power Plants Management and Exploitation of Electroenergetic system Final thesis	2 2	-	2 2	5 6
5	Total in semester	11		10	6 30

Study course: Renewable Energy Sources

1.year	– I. semester						
No.	Courses	Hours per week ECTS					
		L	S	Е	Credits		
1	Mathematics I	4	-	3	8		
2	Statics	2	-	3	5		
3	Graphic Communications	2	-	2	4		
4	Basic Informatics	2	-	3	5		
5	Materials	2	-	2	5		
6	Foreign Language I	2	1	-	3		
	Total in semester	14	1	13	30		

1. year - II. semester

No	.Courses	Hours per		ECTS	
		L	S	E	Credits
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	1	4
	Total in semester	15	-	11	30

2. year - III. semester

No. Courses		Hours per week			ECTS
		L	S	Е	Credits
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2	Dynamics and Oscillation	2	-	2	4
3	Machine Elements I	2	-	2	4
4	Basic of electrotechnics II	3	-	2	5
5	Basic of electroenergetics	2	-	2	5
6	Physics 1)	2		1	4
	Total in semester	15		12	30

2. ye	ar – IV. semester				
No.	Courses	Hours p		ECTS	
		L	S	Е	Credits
1	Thermodynamics	2	-	3	6
2	Fluid Mechanics	2	-	2	5
3	Machine Elements II	2	-	2	5
4	Electric machines	3	-	1	5
5	Basic elements of electroenergetic				
	systems	2	_	2	5
	Chemistry	2		2	0
6	Total in semester	2		1	4
		13		17	30

3. yea					
No.	Courses	Hours pe	r week		ECTS
		L	S	Е	Credits
1	Engineering measurements	2	-	3	6
2	Engineering projecting	2	-	3	5
3	Heat and Mass Transfer	2	-	2	4
4	Ecology	2	-	1	4
5	Electrical mains	2	-	2	5
6	Electrical Drives	2	-	1	3
7	Engineering Economics	2	-	1	3
	Total in semester	14	-	13	30

3. year – VI. semester

NI	<u> </u>
NIC	
No.	Course

No.	Courses	Hours per L	r week S	Е	ECTS Credits
1	Energy Science: Principles and the Impact of Technology	3	-	2	8
2	Small Power Plants and Wind Turbines	2	-	2	5
3	Power Plants Management and Exploitation of	2	-	2	6
4	Electroenergetic system Renewable and Secondary Energy	2	-	2	6
5	Sources Total in semester	2	-	2	5
		11		10	30

4. year - VII. semester

No.	Courses	Hours per week			ECTS Credits
		L	S	Е	
1	Power Plants Projecting	2	-	3	8
2	Conversion of Electrical Energy	3	-	2	6
3	Distribution Networks	3	-	2	6
4	The Electricity Market	3	-	2	3
5	Project	2		3	4
	Total in semester	13		12	30

4 year - VIII. semester

No.	Courses	Hours per week			ECTS
		L	S	E	Credits
1	The Impact of Distributed Generation on Power Grid	3	-	2	6
2	Projecting of Distributed Sources and Connection on Electricity Grid	2	-	3	5
3 4 5 6	Energetic Eletronics Digital Electronics Switchyards and Substantions Final Thesis Total in semester	2 2 - 11	- - - -	2 2 2 - 11	5 5 4 30

Study course: Thermotechnics

1. yea	ır – I. semester				
No.	Course	Hours per		ECTS	
		L	S	Е	Credits
1	Mathematics I	4	-	3	8
2	Statics	2	-	3	5
3	Graphic Communications	2	-	2	4
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	5
6	Foreign Language I	2	1	-	3
	Total in semester	14	1	13	30

1. yea	ar – II. semester				
No.	Course	Hours per	ECTS		
		L	S	Е	Credits
1	Mathematics II	4	-	3	8
2	Kinematics	2	-	1	4
3	Programming	2	-	2	4
4	Basic of electrotechnics I	3	-	2	5
5	Material Resistance	2	-	2	5

3 4 5 6	Basic of electrotechnics I Material Resistance Foreign Language II Total in semester	3 2 2 15	- - -	2 2 1 12	5 5 4 30
	rotar in Semester				

2. year - III. semester

No.	Course	Hours per week			ECTS
		L	S	Е	Credits
1	Mathematics III (Numeric Mathematics and Statistics)	4	-	3	8
2	Dynamics and Oscillation Machine Elements I	2	-	2	4
3 4	Basic of electrotechnics II	2 3	-	2	4 5
5	Basic of electroenergetics	2	-	2	5
6	Physics 1)	2		1	4
	Total in semester	14		13	30

2. year – IV. ser	nester
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No.	Courses	Hours per week			ECTS
1 2 3 4 5	Thermodynamics Fluid Mechanics Machine Elements II Electric machines Basic elements of electroenergetic	L 2 2 3	S - - - -	E 3 2 2 1	Credits 6 5 5 5
	systems Chemistry	2	-	2	5
6	Total in semester	2 16		1 13	4 30

3. ye	ar – V. semester				
No.	Courses	Hours per	week		ECTS
1 2 3 4 5 6	Engineering measurements Engineering projecting Heat and Mass Transfer Ecology Electrical mains Electrical Drives	L 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	S - - - - - - - -	E 3 2 1 2 1	Credits 6 5 4 4 5 3 3
7	Engineering Economics Total in semester	14	-	13	30

3 year – VI. semester

No.	Courses	

No.	Courses	Hours per week			ECTS Credits
		L	S	Е	
1	Heating and Air Conditioning	2	-	2	7
2	Cooling Devices	2	-	2	4
3	Renewal and Secondary Energy				•
•	Sources	2	-	2	4
	District Heating Systems	_		_	-
4	Elective courses:	2	-	2	5
5	Theory of Ignition and	2	-	2	5
	Combustion				
	Energy efficiency in Construction				
	Industry				
	Final thesis				
					5
6	Total in semester	12		12	30

Study course: Thermotechnics

1.yea No.	r – I. semester				
INO.	Courses	Hours per	week S	_	ECTS Credits
4		L 4	-	E 3	8
1 2	Mathematics I Statics	2	-		5
2	Graphic Communications	2	-	3 2 3	
4	Basic Informatics	2	-	3	5
5	Materials	2	-	2	4 5 5 3
6	Foreign Language I	2 14	1	-	
	Total in semester	14	1	13	30
1. yea No	ar – II. semester .Courses				FOTO
INO	Courses	Hours per		_	ECTS
		L 4	S	E	Credits 8
1	Mathematics II	2	-	3 1	0 4
2 3	Kinematics	2	-	2	4
3 4	Programming Basic of electrotechnics I	3	-	2	5
4 5	Material Resistance	2	-	2	5
6	Foreign Language II	2	-	1	4
	Total in semester	15	-	12	30
	ar – III. semester				
No.	Courses	Hours per			ECTS
		L	S	Е	Credits
1	Mathematics III (Numeric	4	_	3	8
	Mathematics and Statistics)	4	-	5	0
2	Dynamics and Oscillation	2	-	2	4
3	Machine Elements I Basic of electrotechnics II	2	-	2	4
4	Basic of electroenergetics	3 2	-	2	5
5 6	Physics 1)	2	-	2 1	5 4
0	Total in semester	14		13	4 30
		17		10	00
•	ar – IV. semester				
No.	Courses	Hours per v	-		ECTS
		L	S	Е	Credits
1	Thermodynamics	2 2	-	3	6
2	Fluid Mechanics	2	-	2	5 5 5
3	Machine Elements II	3	-	2	ວ 5
4	Electric machines	-		1	5
5	Basic elements of	2		2	5
	electroenergetic systems Chemistry	2	-	1	4
6	Total in semester	16		13	30

3. year – V. semester									
No.	Courses	Hours per week EC			ECTS				
		L	S	Е	Credits				
1	Engineering measurements	2	-	3	6				
2	Engineering projecting	2	-	3	5				
2	Heat and Mass Transfer	2	-	2	4				
1	Ecology	2	-	1	4				
5	Electrical mains	2	-	2	5				
6	Electrical Drives	2	-	1	3				
7		2	-	1	3				
1	Engineering Economics Total in semester	14	-	13	30				

3 year - VI. semester

No.	Courses
INO.	Courses

No.	Courses	Hours per week			ECTS Credits
		L	S	Е	
1	Heating and Air Conditioning	2	-	2	7
2	Cooling Devices	2	-	2	4
3	District Heating Systems Theory of Ignition and	2	-	2	5
4	Combustion Energy efficiency in	2	-	2	5
5	Construction Industry Renewal and Secondary	2	-	2	5
6	Energy Sources Total in semester	2	-	2	4
		12		12	30

4 year - VII. semester

No.	Courses	Hours per week			ECTS	
		L	S	Е	Credits	
1	Boilers	2	-	2	8	
2	Pump fans and Turbocompressors	; 2	-	2	4	
3	Measuring and simulation of	0		0	F	
	Energy Processes	2	-	2	5	
4	Smart Electrical Installations	2	-	2	5	
5	Energy Consumption and	-		-	0	
6	Efficiency Project	2	-	2	5	
0	Total in semester	2	-	3	3	
		12		13	30	

4 yea	ar – VIII. semester				
No	.Courses	Hours pe	r week		ECTS
		L	S	Е	Credits
1	Maintaining	2-		2	6
-	Projecting of Heating and Air	_		_	_
2	Conditioning Systems	2	-	3	5
3	Maintaining and Examination				
	of Electrical Installations	2	-	2	5
4	Pressure Vessels and Piping	2		2	5
5	Energy Efficiency of Electrical	2	-	Z	5
•	Appliances and Machines	2	-	2	5
6	Final Thesis Total in semester				
	I Olai III Sellieslei	-	-	-	4
		10	-	11	30