

Electricity and Energy Department

Electricity Program Course Contents

I. Semester

Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ATİ101	Atatürk's Principles and	2	0	0	2	2	2	Compulsory
	Revolution History-I							
Concepts and	Ottoman modernization. Europear	n de	velo	omer	nts, Indus	trial	Revolution	n and French
	 Ottomans, Constitutional Monarch 							
	d, Tripoli and Balkan Wars. Cause							0
Empire. Nationa	I Struggle preparatory period. Con	gres	s. Si	vas (Congress,	the	last Ottom	nan Parliament
and the National	Pact. TBMM Period: Formation of	front	s. Tre	eaty of	of Lausani	ne.		
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK101	Direct Current Circuits	3	1	0	4	4	4	Compulsory
Electrical quantit	ties and definition of basic concepts	. Oh	m's la	aw, R	lesistance	circu	uits. Star-c	lelta and delta-
star transform.	Kirchoff's laws, Loop currents met	hod.	Noc	le vo	ltage met	thod.	Superpos	sition theorem.
Thevenin's theo	rem. Norton theorem. Maximum p	owe	er tra	nsfei	theorem	. Sto	orage elen	nents in direct
current. Power a	ind energy in direct current.							
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK103	Mathematics I	3	1	0	4	4	4	Compulsory
Numbers. Cluste	ers. Factorization. Exponential numl	bers.	Roo	t nur	nbers. Ab	solute	e value. B	ase arithmetic.
First order equat	tions. Second order equations. Ineq	ualit	ies. F	Ratio	and propo	ortior	h. Function	s. Exponential
and logarithmic f	functions. Trigonometry. Complex n	umb	ers.					-
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK105	Measurement Techniques	3	1	0	4	4	4	Compulsory
Units in measure	ement, measurement process, intro	ducti	ion o	f bas	ic electrica	al qu	antities. E	xponential and
	tion applications of sizes. Errors ar							
	ciples and structures of measuring i							
	vanometer, use of galvanometer in							
	ctrodynamic measurement instrum							
	asurement in direct current (DC).					2000	uoy, 10001	
			Initiic	les ir	n alternati	na c	urrent (AC	 The use of
USCHIOSCODE Its	structure and the use of oscillosc							
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voltage transform	ners, their use. Structure of electrod	ope ynar	in m nic m	easu easu	ring differ	rent p Imen	parameters ts and Wa	s. Current and ttmeter. Power
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Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
YDİ101	Foreign Language-I	2	0	0	2	2	2	Compulsory
Countries. Desc Foods and drinks	storming about the mutual expect ribing jobs. Simple present tense. ^v s. Ordering. Speaking about food fro	Word om al	l orde I ove	er. W r the	'H questic World. W	ons. E riting	Expressing and spea	g likes/dislikes. king about free
	Making dialogues using frequency							
	tice. Talking and writing about w							
	ne polite rules of talking on the phor					pout	past event	is using simple
	were. Understand an article about					•	Harma	T
Course Code	Course Name	T	P	L	ECTS	C	Hours	Туре
ELK151	Fault Analysis			0	3	_	2	Elective
	inding the faulty unit or element. Fa						-	
Course Code	Course Name	T	P	L	ECTS	C	Hours	Туре
ELK153	Home Devices		2	0	3	2	3	Elective
	er devices. Use of washer and dryer							
Course Code	liances. Cooling devices. Use of co Course Name	oling T	P					
		2	-	L	ECTS	C	Hours	Туре
ELK155	Entrepreneurship		0	0	3	2	2	Elective
	p approaches. Entrepreneurship c							
	preneurship fields. Entrepreneurship							
	usiness plan and elements. Prepa	ring	DUSI	iess	plan. Loc	ai, na	ational an	d International
context of entrep		Т			ГОТО	~	Hauna	Turne
Course Code ELK157	Course Name	2	P	L	ECTS	C	Hours 2	Type Elective
	Fine Arts Definitions and concepts related		•	•	-			
Definition of art.	Definitions and concepts related							
Ponoioconoo A								
	rt movements: Romance. Art mo	veme	ents:	Rea	lism. Exp	ressi		
Abstract artwork	rt movements: Romance. Art mo . Postmodernism. New conceptualis	veme sm. N	ents: New a	Rea	lism. Exp	ressi art.	onism. Si	ubject. Object.
Abstract artwork Course Code	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name	veme sm. N T	ents: New a P	Rea appro	lism. Exp aches in a ECTS	ressi art. C	onism. Si Hours	ubject. Object. Type
Abstract artwork Course Code ELK159	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management	veme sm. N T 2	ents: New a P 0	Rea appro L 0	lism. Exp baches in a ECTS 3	oressi art. C 2	onism. So Hours 2	ubject. Object. Type Elective
Abstract artwork Course Code ELK159 Energy concept efficiency. Measu efficiency in elec Energy saving in	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy s uring technique and electrical meas tric motors. Effect of variable drive of houses.	veme sm. N 2 ourc uring desig	ents: New a P 0 es. E instr n on	Rea appro L 0 Energ	lism. Exp paches in a ECTS 3 y manage nts. Energ gy efficier	ressi art. 2 emen y effi ncy. E	onism. Si Hours 2 t. Energy ciency in p Energy sa	Ubject. Object. Type Elective study. Energy pumps. Energy ving in lighting.
Abstract artwork Course Code ELK159 Energy concept efficiency. Mease efficiency in elect Energy saving in Course Code	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy s uring technique and electrical meas tric motors. Effect of variable drive of houses. Course Name	veme sm. N 7 2 oourc uring desig T	ents: New a P 0 es. E instr n on P	Rea appro 0 nerg umer ener	lism. Exp paches in a ECTS 3 y manage nts. Energ gy efficier ECTS	ressi art. 2 emen ly effi ncy. E	onism. Si Hours 2 t. Energy ciency in p Energy sav Hours	Ubject. Object. Type Elective study. Energy pumps. Energy ving in lighting. Type
Abstract artwork Course Code ELK159 Energy concept efficiency. Mease efficiency in elect Energy saving in Course Code ELK161	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy s uring technique and electrical meas tric motors. Effect of variable drive of houses. Course Name Communication	veme sm. N 2 sourc uring desig T 2	ents: New a P 0 es. E instr n on P 0	Rea appro L 0 Energ umer ener	lism. Exp baches in a ECTS 3 y manage nts. Energ gy efficier ECTS 3	ressi art. 2 emen ly effi ncy. E C 2	onism. So Hours 2 t. Energy ciency in p Energy sav Hours 2	Ubject. Object. Type Elective study. Energy pumps. Energy ving in lighting. Type Elective
Abstract artwork Course Code ELK159 Energy concept efficiency. Mease efficiency in elect Energy saving in Course Code ELK161 Introduction to Interpersonal co communication: communication: Objective communication	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy suring technique and electrical meas tric motors. Effect of variable drive of houses. Course Name Communication communication. Types and forms Communication. Types and forms Communication skills: Verbal, r Speaking. Oral communication: L Body language. Nonverbal communication: F communication. Written communication: F	veme sm. N 7 2 oourc uring desig desig desig T 2 ms of oon-v ister nicat	ents: New a P O es. E instr instr in on of c com rerba ing. tion: al write	Rea appro 0 anerg umel ener 0 comn munit l and Oral Voca	lism. Exp paches in a ECTS y manage nts. Energ gy efficier ECTS 3 nunication cation: G d written commun l element communication	ressi art. 2 amen y effi ncy. E corr icatic s. No ation.	onism. So Hours 2 t. Energy ciency in p Energy sav Hours 2 ersonal c communicatio on: Empat onverbal c . Written c	Type Elective study. Energy pumps. Energy ving in lighting. Type Elective ommunication, nication, Mass on skills. Oral hy. Nonverbal ommunication:
Abstract artwork Course Code ELK159 Energy concept efficiency. Mease efficiency in elect Energy saving in Course Code ELK161 Introduction to Interpersonal co communication: communication: Objective communication	rt movements: Romance. Art mo Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy suring technique and electrical meas tric motors. Effect of variable drive of houses. Course Name Communication communication. Types and forms Communication. Types and forms Communication skills: Verbal, r Speaking. Oral communication: L Body language. Nonverbal commu- unication. Written communication: F	veme sm. N 7 2 oourc uring desig desig desig T 2 ms of oon-v ister nicat	ents: New a P O es. E instr instr in on of c com rerba ing. tion: al write	Rea appro 0 anerg umel ener 0 comn munit l and Oral Voca	lism. Exp paches in a ECTS y manage nts. Energ gy efficier ECTS 3 nunication cation: G d written commun l element communication	ressi art. 2 amen y effi ncy. E corr icatic s. No ation.	onism. So Hours 2 t. Energy ciency in p Energy sav Hours 2 ersonal c communicatio on: Empat onverbal c . Written c	Type Elective study. Energy pumps. Energy ving in lighting. Type Elective ommunication, nication, Mass on skills. Oral hy. Nonverbal ommunication:
Abstract artwork Course Code ELK159 Energy concept efficiency. Measu efficiency in elect Energy saving in Course Code ELK161 Introduction to Interpersonal co communication: communication: Objective communication: Objective communication: Course Code ELK163	rt movements: Romance. Art mo . Postmodernism. New conceptualis Course Name Energy Management and units. Energy types. Energy suring technique and electrical meas tric motors. Effect of variable drive of houses. Course Name Communication communication. Types and forms Communication. Types and forms Communication skills: Verbal, r Speaking. Oral communication: L Body language. Nonverbal communication: F communication. Written communication: F	veme sm. N T 2 oourc uring desig desig desig desig desig desig turing turing on-v nicat forma tion: T 2	ents: New a P 0 es. E instr gn on P 0 of c com erba aling. tion: tion: tion: P 0 0	Rea appro 0 inerg umel ener 0 communid I and Oral Voca tten c inet a 0	lism. Exp paches in a ECTS ay manage nts. Energ gy efficier ECTS anunication cation: G d written communication l element communication ECTS and social ECTS 3	ressi art. 2 emen y effi ncy. E 2 corr icatic s. No ation. med 2 2	onism. So Hours 2 t. Energy ciency in p Energy sav Hours 2 ersonal c communicatio on: Empat onverbal c . Written c ia. Hours 2	Ubject. Object. Type Elective study. Energy bumps. Energy ving in lighting. Type Elective ommunication, Mass on skills. Oral thy. Nonverbal ommunication: ommunication: Type Elective

II. Semester

Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
ATİ102	Atatürk's Principles and	2	0	0	2	2	2	Compulsory	
	Revolution History-II								
Political parties Grand National and social area	ons: Abolition of the Sultanate, De and political events established in Assembly. Legal reform and legal o . Revolutions in economic area. T policy in Atatürk period (1930-1938) urkey.	the p rder. urkis	erioo Rev h foi	d of A olutic reign	Atatürk an ons in edu policy in	d rep catio Atat	oresented n. Revolu ürk perioo	in the Turkish tions in culture d (1923-1930).	
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
ELK102									
DC bias circuits of BJT: Fixed bias, Emitter-resistant fixed bias, Voltage divider bias, Collector feedback									
	bias. Circuits with common emitter, common base and common collector. Current and voltage gain. DC								
solution of BJT c	ircuits. AC equivalent circuits of BJT	. AC	solut	tion o	f BJT circ	uits. I	Descriptio	n and structure	

circuit inverting	structure of operational amplifiers. and non-inverting amplifier circuits,							
Course Code	Course Name	T	P		ECTS	C	Hours	Type
ELK104	Mathematics II	3	0	0	3	3	3	Compulsory
	Continuity, Differentiation methods,	-	-	-	-		-	
applications.	,	-			,		,	J
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK106	Alternative Current Circuits	3	1	0	4	4	4	Compulsory
Definition of alte	rnating current. Explanation of ampl	itude	, per	iod, c	ycle, insta	antan	eous valu	e, mean value,
	, peak value and frequency. Investig							
	ent. Investigation of the behavior of							
	ent and calculation of phase difference							
	RLC connections in alternating of							
	Iternating current. Correction of t							
	Iternating current circuits. Mesh cur							
	nin's Theorem calculations in AC o							
	r theorem. Definition of resonance, in ge and power in a three-phase circu		ugau		senes-pa	rallel	resonanc	es. Calculation
Course Code	Course Name	T.	Р		ECTS	С	Hours	Туре
ELK108	Computer Aided Design	1	Г 1	0	3	2	2	Compulsory
	the interface of electrical and electric	ronic	circu	•				
	Analog circuit symbols and circuit							
	easuring instruments for analog cir							
	isual measuring instruments for digit							
	ction of the printed circuit drawing							
	rawing. Netlis acquisition from elec							
	printing. Transferring the circuit dra							
	equent processes.	amin	9 011					ng mornator
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK110	Transformers and Direct Current	3	1	0	4	4	4	Compulsory
	Machines							
General informa	ation about electrical machines. Dire	ct cu	rrent	mac	hines. Tra	nsfo	rmers.	
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
						•		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
STJ102	Internship	0	0	0	10	0	0	Compulsory
Workplace appli	ication.	-	0	0	10			Compulsory
Workplace appli	cation. Course Name	Т	Р	L	10 ECTS	0 C	Hours	Compulsory Type
Workplace appli Course Code TDi102	ication. Course Name Turkish Language II	T 2	P 0	L	10 ECTS 2	0 C 2	Hours 2	Compulsory Type Compulsory
Workplace appli Course Code TDi102 Definition of lang	ication. Course Name Turkish Language II guage. The relationship between nat	T 2 ion a	P 0 Ind la	L 0 Ingua	10 ECTS 2 Ige. The re	0 C 2 elatio	Hours 2	Compulsory Type Compulsory ween language
Workplace appli Course Code TDi102 Definition of lang and culture. Fa	ication. Course Name Turkish Language II guage. The relationship between nat mily of languages, the place of T	T 2 ion a urkis	P 0 Ind la	L 0 Ingua	10 ECTS 2 Ige. The re ge among	0 2 elatio	Hours 2 Inship betv er langua	Compulsory Type Compulsory ween language ges. Historica
Workplace appli Course Code TDi102 Definition of lang and culture. Fa development of	cation. Course Name Turkish Language II guage. The relationship between nat mily of languages, the place of T Turkish language. The current si	T 2 ion a urkis tuatio	P 0 Ind la h lar	L 0 Ingua Tur	10 ECTS 2 Ige. The re ge among kish langu	0 2 elatio oth uage	Hours 2 Inship betv er langua , its histo	Compulsory Type Compulsory ween language ges. Historica ry and curren
Workplace appli Course Code TDi102 Definition of lang and culture. Fa development of examples, verna	ication. Course Name Turkish Language II guage. The relationship between nat mily of languages, the place of T Turkish language. The current si acular, accent, dialect. Definition of g	T 2 ion a urkis tuatio ramr	P 0 Ind la h lar on of nar a	L 0 Ingua Tur nd its	10 ECTS 2 Ige. The re ge among kish langu sections,	0 2 elatio oth Jage feat	Hours 2 Inship betv er langua , its histo ures of Tui	Compulsory Type Compulsory ween language ges. Historica ry and curren kish language
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Workplace appli Course Code TDI102 Definition of lang and culture. Fa development of examples, verna Phonetic, phone Punctuations. W	ication. Course Name Turkish Language II guage. The relationship between nat mily of languages, the place of T Turkish language. The current si acular, accent, dialect. Definition of g etic of Turkish, its features and class /ord structure of Turkish and particle	T 2 ion a furkis tuatio ramr sifica es, de	P 0 ind la h lar on of nar a tion of	L 0 Ingua 1gua Turi nd its	10 ECTS 2 Ige. The re ge among kish langu sections, onemes. (affix, infle	0 2 elatio j oth Jage featu Gram	Hours 2 nship betw er langua , its histo ures of Tur matical ru al suffix.	Compulsory Type Compulsory ween language ges. Historica ry and curren rkish language ules of Turkish
Workplace appli Course Code TDi102 Definition of lang and culture. Fa development of examples, verna Phonetic, phone Punctuations. W	Course Name Turkish Language II guage. The relationship between nat mily of languages, the place of T Turkish language. The current si acular, accent, dialect. Definition of g etic of Turkish, its features and class ford structure of Turkish and particle Course Name	T ion a urkis tuatio ramr sifica es, de	P 0 Ind lar on of nar a tion of erivat	L 0 ngua Turi nd its of phe ional	10 ECTS 2 Ige. The re ge among kish langu sections, onemes. (affix, infle ECTS	0 2 elatio j oth Jage featu Gram exion	Hours 2 Inship betw er langua , its histo ures of Tun matical ru al suffix. Hours	Compulsory Type Compulsory ween language ges. Historica ry and curren rkish language iles of Turkish
Workplace appli Course Code TDi102 Definition of lang and culture. Fa development of examples, verna Phonetic, phone Punctuations. W Course Code YDi102	Course Name Turkish Language II guage. The relationship between nationality of languages, the place of T Turkish language. The current si acular, accent, dialect. Definition of g etic of Turkish, its features and class /ord structure of Turkish and particle Foreign Language II	T 2 ion a furkis tuatio ramr sifica sifica es, de T	P 0 ind la h lar on of nar a tion of erivat	L 0 ingua ingua Turi nd its of phe ional L 0	10 ECTS 2 Ige. The re ge among kish langu sections, onemes. (affix, infle ECTS 2	0 2 elatio j oth Jage featu Gram exion C 2	Hours 2 Inship betw er langua , its histo ures of Tur matical ru al suffix. Hours 2	Compulsory Type Compulsory ween language ges. Historica ry and curren rkish language ules of Turkish Type Compulsory
Workplace appli Course Code TDi102 Definition of lang and culture. Fa development of examples, verna Phonetic, phone Punctuations. W Course Code YDi102 Talking about cl	Course Name Turkish Language II guage. The relationship between nationality of languages, the place of T Turkish language. The current si acular, accent, dialect. Definition of getic of Turkish, its features and class /ord structure of Turkish and particle Course Name Foreign Language II othes. Using comparative adjectives	T 2 ion a furkis tuatio ramr sifica es, de T 2 s. Ma	P 0 ind la h lar on of nar a tion of erivat P 0 king	L 0 ingua ingua Turi nd its of pho ional L 0 dialo	10 ECTS 2 Ige. The re ge among kish langu sections, onemes. (affix, infle ECTS 2 gues abou	0 2 elatio g oth Jage featu Gram exion C 2 ut sho	Hours 2 Inship betwer Iangua its histo ures of Tur imatical ru al suffix. Hours 2 opping. Sp	Compulsory Type Compulsory ween language ges. Historica ry and curren rkish language ules of Turkish Type Compulsory peaking activity
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Course Code	Course Name	Т	Р	L	ECTS	С	Hours	Туре
ELK152	First Aid	2	0	0	3	2	2	Elective
	id techniques (ABC) and application		•	÷				
	em problems and loss of consciou							
	andaging. Musculoskeletal injuries							
	ries. Transport and transportation m			aum	a. 1 013011	ing, c		
Course Code	Course Name	T	P		ECTS	С	Hours	Туре
ELK154	Electrical Maintenance And	2	0	0	3	2	2	Elective
ELN134	Fault Finding	2	0	0	3	2	2	Elective
Maintananaa pro	U	mair	topo	200	Doriodio	moint	iononoo I	Decumentation
	cesses and philosophy. Predictive							
	Facility control. Use of measuring i							
	azards, work safety, electrical acc							
	escue). Fault finding techniques; S							
	ding and troubleshooting. Fault d							
	etection and repair in electrical inte							
	nd industrial power plants. Fault de							
	letection and repair in distribution	trans	sform	ers.	Fault dete	ectior	and repair	air in electrical
household applia								
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK156	Office Softwares	1	1	0	3	2	2	Elective
Document opera	tions, formatting operations. Docum	nento	contr	ol, pr	int, table c	pera	tions. Obj	ect operations,
advanced prope	rties. Macros, customization. Worl	kspad	ce, d	ata e	entry, form	nattin	g operatio	ons. Formulas,
functions. Grap	hics operations, data analysis. I	Printi	ng,	macr	os, custo	omiza	tion. Wo	rkspace, slide
operations desig	gn. Slide objects, show settings. Pri	ntina	-					- · ·
		nung	l, cus	tomiz	zation. Inte	ernet	concepts	, E-mail.
Course Code	Course Name	T	, cus P	tomi	zation. Inte	ernet C	concepts Hours	, E-mail. Type
				tomiz L 0	1			
Course Code ELK158	Course Name Environmental Protection	T 2	P 0	L 0	ECTS 3	C 2	Hours 2	Type Elective
Course Code ELK158 Environmental p	Course Name Environmental Protection rotection concept. Legal development	T 2 ent in	P 0 natu	L 0 Ire ar	ECTS 3 nd enviror	C 2 men	Hours 2 tal protect	Type Elective tion, the role of
Course Code ELK158 Environmental p governments ar	Course Name Environmental Protection rotection concept. Legal developmental non-governmental organization	T 2 ent in s. E	P 0 natu nvirc	L 0 Ire ar	ECTS 3 nd enviror ntal adve	2 2 men rse	Hours 2 tal protect effects of	Type Elective tion, the role of furbanization.
Course Code ELK158 Environmental p governments ar Causes, effects a	Course Name Environmental Protection rotection concept. Legal development and non-governmental organization and mechanisms of air pollution. Ce	2 ent in s. E	P 0 natu nvirc types	L 0 Ire ar onme s of w	ECTS 3 nd enviror ntal adve rater and a	C 2 men rse air pol	Hours 2 tal protect effects of llutants, w	Type Elective tion, the role of furbanization. ays of harming
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Course Code ELK158 Environmental p governments ar Causes, effects a the environment problem. Legal a	Course Name Environmental Protection rotection concept. Legal development and non-governmental organization and mechanisms of air pollution. Ce and / or human health. Greenhouse and environmental framework in wa	T 2 ent in s. E rtain e effe ste n	P 0 natu nvirc types ct. G nana	L 0 onme of w lobal geme	ECTS 3 nd enviror ntal adve vater and a warming, ent; proble	C 2 men erse air pol clima ems a	Hours 2 tal protect effects of llutants, w ate change associated	Type Elective tion, the role of f urbanization. ays of harming e. Soil pollution I with recycling
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Course Code ELK158 Environmental p governments ar Causes, effects a the environment problem. Legal a and developmen of sustainable er	Course Name Environmental Protection rotection concept. Legal development and non-governmental organization and mechanisms of air pollution. Ce and / or human health. Greenhouse and environmental framework in wa t. Using fossil fuels, environmental nergy sources including hydroelectr	T 2 ent in s. E rtain e effe ste n discu	P 0 1 natu invirc types ct. G nana issior	L 0 onme of w lobal geme	ECTS 3 nd enviror ntal adve rater and a warming, ent; proble out nuclea	C 2 amen erse air pol clima ems a ar pol	Hours 2 tal protect effects of llutants, w ate change associated wer plants	Type Elective tion, the role of f urbanization. ays of harming e. Soil pollution d with recycling b. Development
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III. Semester

Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK201	Electric Energy Power Plants	2	0	0	3	2	2	Compulsory
	ining electrical energy. Types and v es of nuclear power plants. Types a							
	generation from wind energy. Ele r generation, autoproducer applicat		•	•				
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK203	Computer Aided Project	2	1	0	3	3	3	Compulsory
program, using t of function keys processes. Imag	AutoCAD program. Introducing the he help menu. Command execution . Functions and use of mouse. Obj ge control commands (pan, zoom) mands (endpoint, midpoint). Using g	meth ject s . Sha	nods. selec adow	Filing tion r and	g procedu nethods. visualiza	res. (Cutti tion	Coordinate ng, copyir (shade) s	e systems. Use ng and pasting ettings. Object

Geometric and c	nt, line, ray, construction line, multilin		лүште	. Спс	зе агс ег		ompoo ai	
natch, boundary	y, region, wipeout, revision cloud	d, m	ultilin	e tez	xt, table,	rect	angle). D	rawing editir
	se, copy, move, rotate, mirror, exple eak at point, join, divide, mesure, ali				nd, fillet, c	hami	fer, stretch	n, array, offse
Course Code	Course Name	T	P	L	ECTS	С	Hours	Туре
ELK205	System Analysis and Design	3	1	0	4	4	4	Compulsor
	bject of study. To provide information	on or	h the	subie	ect of the	studv	. To defin	
	the system. Choosing the necessa							
	ogram or calculations of the system							
	up the system. Testing the system.							
Course Code	Course Name	T	Ρ	L	ECTS	C	Hours	Туре
ELK207	Electromechanic Control	3	1	0	4	4	4	Compulsor
	Systems	Ū		Ŭ				• • • • • • • • •
Control element	s, protection relays. Three-phase	asvn	chror	าดบร	motors c	ut an	d continu	ous operatio
	hase asynchronous motors from tw							
	-phase asynchronous motors. Resi							
	asynchronous motors. Starting three							
	ar-delta starting for three-phase							
	notors. Control in double speed mo							
	ion of rotation in single-phase indu					irect	current m	iotors. Chang
	ion in direct current motors. Braking		1	otors		-		
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK209	Project Design	0	2	0	2	1	2	Compulsor
Choosing the s	ubject of study. To do a resourc	e se	arch.	То	evaluate	the	results of	the researd
ransforming res	search results into reports. Prepara	tion f	or pr	esent	tation. To	make	e the pres	entation.
Course Code	Course Name	Т	P	L	ECTS	С	Hours	Туре
ELK211	Asynchronous and Synchronous	3	1	0	4	4	4	Compulsor
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	on of hydraulic circuits. Maintenand basic principles. Pneumatic system								
Maintenance and malfunctions of pneumatic circuits.									
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
ELK257	Vocational Foreign Language I	2	0	0	3	2	2	Elective	
language. Meas a foreign langu	c grammar rules in a foreign langu uring instruments and measuremer age. Concepts of installation tecl epts in foreign language. Translatior	nt me nnolc	thod gy i	sinf na	oreign lan foreign la	iguag ingua	ge. DC cir age. Spec	cuit analysis in cial installation	
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
ELK259	Professional Ethics	2	0	0	3	2	2	Elective	
Ethics and mora	lity. Basic ethical principles. Types	of et	hics:	Indiv	vidual ethio	cs. T	ypes of et	hics: Business	
ethics. Ethical so	ources. Ethical standards. Professio	nal e	thics	. Pro	fessional	corru	ption and	consequences	
of unethical beh	avior in professional life. The conce	pt of	socia	al res	ponsibility	<u>′</u> .			
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
ELK261	Electronic Circuit Design	1	1	0	3	2	2	Elective	
Soldering mater	rials. Soldering. Printed circuit. Pl	acen	nent	of m	naterials of	on th	e plaque	. Inserting the	
elements in the power supply box. Testing the power supply.									
	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре	
Course Code	ooulse Nullie								
Course Code ELK263	Board Design and Installation	2	0	0	3	2	2	Elective	

IV. Semester

Course Code	Course Name	Т	Р	L	ECTS	С	Hours	Туре
ELK202	High Voltage Techiques	2	0	0	3	2	2	Compulsory
High voltage typ	es and related definitions. Errors in	n hig	jh vo	Itage	measure	ment	s. High vo	oltage dividers.
Classification o	f tension according to internation	nal	stand	dards	. Parallel	ope	eration of	transformers.
Calculation of sa	igging and stretching, snow, ice and	wind	d load	ds on	the lines.	Туре	es of high	voltage cables.
Determination c	f the cable fault location. Switching	ng e	eleme	ents i	used in tr	ansn	nission ar	nd distribution.
Protection techn	iques and principles in high voltage	e fac	ilities	s. "Sa	afety Regu	Ilatio	n in Elect	ricity Facilities"
for any work to b	e done in high voltage network faci	lities						-
Course Code	Course Name	Т	Ρ	L	ECTS	С	Hours	Туре
ELK204	Installation and Project	3	1	0	4	4	4	Compulsory
Choosing the ar	chitectural plan, examining the arch	itectu	ural p	lan. I	Learning t	he te	chnical de	etails about the
	n and furnishing plan. Determination							
required for the	project. Electrical Indoor Installatio	ns F	Regul	ation	. Electricit	y Inc	door Insta	llations Project
Preparation Re	gulation. Learning project drawing	g rul	es.	Learr	ning abou	it pro	oposal, p	reliminary and
application proje	ects. Scale drawing of the archited	ctura	l plai	n on	tracing p	aper	in such a	a way that the
electrical installa	tion plan is drawn. Lighting calculat	ions.	. Ápp	licatio	on of lighti	ng ca	alculations	s to the project.
Drawing the bas	ement floor electrical installation pla	n. Di	rawin	g the	e ground fl	oor e	lectrical in	stallation plan.
Drawing the floo	r electrical installation plan. Drawing	the	site p	lan. I	Preparatio	n of t	the loading	g chart. Making
voltage drop cal	culations. Section selection and che	eckir	ng. Ai	rrang	ement of	high	current co	olumn diagram.
	cs, weak current, telephone and tele							
	ther details of the project. Learning							
	ning the necessary procedure for n	nakir	ng the	e proj	ject ready	for a	approval. I	Presentation of
the prepared pro								
Course Code	Course Name	Т	Р	L	ECTS	С	Hours	Туре
ELK206	Special Designed Machines	2	1	0	3	3	3	Compulsory
	d working principles of step motor							
	peed regulation of universal motor			ure a	nd workin	ig pr	inciples o	f linear motion
motors. Shade p	ole motors structure and working p	rincip	oles.					
O a uma a O a da	Course Norre	-			FOTO	0	Harma	T
Course Code	Course Name	T	P	0	ECTS	C 2	Hours	Туре
ELK208	Electric Power Transmission	2	0	0	3	2	2	Compulsory
O an anal atm at	and Distribution							
	e of electrical energy systems. Cur							
	and properties of electrical energy							
	on networks. Transformer centers a							
	es and properties of underground ca							
	ulators. Types and properties of se							
	and transformer selection. Prote	ction	sys	lems	in electri	car e	energy tra	nsmission and
distribution.								

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ELK264	Control Systems	2	0	0	3	2	2	Elective
Speed control m loop control sys Open-closed co Proportional-inte	rol system and automated production nethods of direct current motor. Con tem. Feedback. To create a simple ntrol system. Proportional-integral c egral-derivative control system. ivative control systems. Proportional ses.	trol c mat ontro Dif	of DC hema ol sys feren	mote atical tem. ces	or by oper model in Proportio betweer	n looj closo nal-d narpr	o control s ed loop co lerivative o oportiona	system. Closed ontrol systems. control system. I-integral and