## SYLLABUS

General	Title and code of subject,	ETR 480 Electrotechnology 6 ECTS			
information	number of credits	2111 100 21 <b>00</b> 11010 1010 1010 1010			
	Department	Physics and Electronics			
	Program	Bakalavr			
	Academic semester	2024 Fall			
	Lecturer	PhD, dosent Hasanov Elchin			
	E-mail:	elgafgas@yahoo.com			
	Phone number:	+994 50 5287740			
	Lecture room/Schedule	11 Mehseti Street, AZ1096 Baku, Azer	rbaijan (Neftchilar campus),		
		room			
	Consultations	II, 15:00 – 16:00			
	0.00	G 1 10.00			
-	Office hours	Sunday 10-00			
Prerequisites	F 11				
Course	English				
language Type of the	Major				
subject	Major				
Textbooks and	Ədəbiyyat				
additional					
materials	1. Special Electrical Machinery	, J./Berns 2019 .112 p.			
		1			
	2. Engineering Science Y/Righ	nt 2007, 75 p.			
	<b>3.</b> Industrial Electronics N/Cobind 2004, 231 p.				
	4. Renewable Energy and Clima	ate Change Volker V. Quaschning2013 1	129 p/		
Teaching	Lecture		+		
methods	Group discussions at seminars	s	+		
Assessment	Components	Date/ Deadline	Percent (%)		
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- Understand the physical phenomena involved in electro technological processes;
- Know the methods of converting electrical energy into other forms of energy;
- Comprehend the basic laws governing energy distribution and movement;
- Identify the different types of electro technological processes and devices, along with their applications;
- Understand the operating modes of electro technological devices and energy-saving techniques;
- Recognize sources of basic scientific and technical information related to electro technological processes and equipment.

## Skills:

- Understand the components and functional purposes of electrical equipment and devices used in electrical power systems and electrotechnical objects;
- Experimentally determine the parameters and characteristics of electro technological devices;
- Measure key electrical and non-electrical quantities related to the operation of electro technological facilities;
- Calculate the operating modes of electro technological devices;
- Ensure the proper operation of electrical devices.

## Rules (Educational policy and behavior)

## Lesson organization

General information on the subject will be provided for the students during lectures.

Student's knowledge on the previous topics will be evaluated and new topic will be explained by mins of visual aids during seminars. Student's knowledge level will be tested oraly and in written forms before midterm and final exams. Submission of the individual works by the end of course is obligatory.

• Effectiveness (pass/fail)

This course strictly follows the assessment policy conducted by the subject teaching faculty. Hencew a student must score at least 60% to pass the course normally. In case of failure he will be forced to repeate the course in the next term or year.

Plagiarism

Cheating or other forms of plagiarism during review surveys, midterms and final exams will result in disqualification. In this case a student will automatically receive zero "0" without furher discussion.

Professional conduct directives

Students will behave professionally during class hours to create a conductive academic environment. Off course discussions and unethical behavior are strictly prohibited.

Attendance

Participation of students at all classis is important. Students should inform dean's office about missing lessons for particular reasons (illness, family issues and etc.). Students, missing more than 25% of lessons, are not allowed to take the exam.

Ouizzes.

Quizzes will be four times during semester. The time of quizzes will be announced in the classrom three weeks before. The quizzes will be related to the homework material.

Activity

Students who will be active during discussion of past lessons will be awarded with one activity mark.

This program reflects the comprehensive information about the subject and information about any changes will be provided in advance.

Week	Dates (planned)	Subject topics	Textbook/ Assignments
1	17.09./24	Physical principles and technical implementation of modern electrotechnological installations	[1] p.709-741
2	24.09./24	Principles of Electricity Electro technological processes in ecology	[1] p.750-773
			[1] p-780-795
		Problem solving.	

3	01./10/24	Automatic control of electrical technological processes	[1] p.800-815
		Problem solving.	
4	08/10/24	Features of mathematical modeling of electrotechnological processes	[1] p.815-838
		Problem solving.	
5	15/10/24	Induction heating technologies	
		Problem solving.	
6	22/10.24	Fundamentals of thermal calculation of electrothermal installations.	[1] p.846-872
		Problem solving.	
7	29/10/24	Direct electric resistance heating	[1]p.881-900,
		Indirect electric resistance heating.	
		Problem solving	
8	05.11/24	Electro-technological industrial installations	[1] p.957-984
		Induction and dielectric heating	
		Problem solving.	
9		Midterm Exam	
10	12.11/24	Electric water heaters and steam boilers	[1] p.916-947
		Thermoelectric heating and cooling	
		Problem solving	
11	19.11.24	Electropulse technology	[4]p. 73-96
		Electrohydraulic effect and its use	
		Problem solving	
12	26.11.24	Ultrasonic and magnetic processing of materials	[1] p.1061-1085
		Problem solving	
13	03/12/24	Tubular Electric Heaters	[3]p.555-611
		Induction Heater	
		Problem solving.	
14	10/12/24	Electrical equipment for electrophysical and electrochemical installations	[1] page 9-6
		. Problem solving	[1] page 10-6
15	17/12/24	Electric current treatment Ultrasonic technology	[1] page 11-6

