S Y L L A B U S

General information	**Title and code of subject, number of credits**	ETR 620 Electronic defense system 6 ECTS	
	Department	Physics and Electronics	
	Program	Master	
	Academic semester	2022 Fall	
	Lecturer	PhD , dosent Hasanov Elchin	
	E-mail:	elgafgas@yahoo.com	
	Phone number:	+994 50 5287740	
	Lecture room/Schedule	11 Mehseti Street, AZ1096 Baku, Azerbaijan (Neftchilar campus), room	
	Consultations	II, 15:00 – 16:00	
	Office hours	Sunday 10:00	
Prerequisites			
Course language	English		
Type of the subject	Major		
Textbooks and additional materials	***Textbooks*: Hugh D.Young, Roger A.Freedman *University Physics. Pearson International Edition.P.1551*** 1. J/Beresford ITP 325: Ethical Hacking and Systems Defense 2018 2. / Filippo Herri Introduction to Electronic Defense Systems 3rd Edition/ 2020		
Teaching methods	**Lecture**		+
	Group discussions at seminars		+
Assessment	**Components**	**Date/ Deadline**	**Percent (%)**
	Tests	During the semester	5
	Activity	At each lesson	10
	Quizzes	During the semester	15
	Attendance	During the semester	5
	Midterm exam		30
	Final exam		35
	Final		**100**
Course description	. Protection engineering concerned with the design and operation of "protection schemes". - Protection schemes are specialized control systems that monitor the power system, detecting faults or abnormal conditions and then initiate correct action. - In this course the power system is considered as all the plant and equipment necessary to generate, transmit, distribute and utilize the electric power. The principal electrical system faults are short circuits and overloads. Short circuits may be caused in many ways, including failure of insulation due to excessive heat or moisture, mechanical damage to electrical distribution equipment, and failure of utilization equipment as a result of overloading or other abuse		
Course	The course gives the student basic knowledge in radio electronics. The system		

objectives	perspective is addressed both in the context of traditional radio and today's wireless communication systems. The objectives of the course is that the student will learn operation principles of radio systems and their fundamental limitation Short circuits may occur between two-phase conductors, between all phases of a poly-phase system, or between one or more phase conductors and ground. The short circuit may be solid (or bolted) or welded, in which case the short circuit is permanent and has relatively low impedance.
Learning outcomes	- explain the principles of radio transmission and reception - explain the existing physical and technical limitations of a radio system - analyze the functionality of radio transmitters and receivers - calculate basic radio specifications in terms of power, gain, noise and frequency for basic modulation schemes - explain differences between traditional radio and today's digital radio systems
Rules (Educational policy and behavior)	▪ **Preparation for the lesson**. This course makes your study and preparation outside of the classroom essential. Lectures are based on what is presented in the text. A visual explanation will greatly help your understanding of the lecture. After the lecture, you should study your notes and work through the relevant tasks and cases from the end of the chapter and the sample exam questions. • **Withdrawal (pass/fail)** This course strictly follows grading policy of the School of Humanities, Education and Social sciences. Thus, a student is normally expected to achieve a mark of at least 60% to pass. In case of failure, he/she will be required to repeat the course the following term or year. ▪ **Cheating/plagiarism** Plagiarism during midterm and final exams will result in the cancellation of the work. In this case, the student automatically gets zero (0), without any reasoning. ▪ **Rules of professional conduct** Students must behave appropriately for the university in order to create an appropriate aura during their studies. Unauthorized discussions and unethical behavior are strictly prohibited. **Attendance** Students who attend the whole classes will get 5 marks. for three absence student loses 1 mark. • **Quizzes** There will be a quizzes per two weeks. The quizzes will be announced in the classroom two weeks before and will relate to homework. • **Activity** Students who will be active during discussion of past lessons will be awarded with one activity mark. • **Tests** Tests will be presented to the students based on the homework of each lesson during the semester and will be evaluated with 5 points at the end.

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	***17/09/22***	Electromagnetic interference Radio-frequency interference (RFI). Coupling (electronics). Conducted interference	[1] p.709-741
2	***24.09/22***	Viruses and antiviruses. Computer viruses and their classification/ Methods for protecting against computer viruses.	[1] p.750-773 [1] p-780-795
		Problem solving..	
3	***01/10/22***	Antivirus software The main functions of antivirus programs. The main result of the work of antivirus programs	[1] p.800-815
		Problem solving.	
4	***08/10/22***	Basic methods of fighting computer viruses The main characteristics of viruses. Rezident virus. Replikator. Stels viruses.	[1] p.815-838
		Problem solving.	
5	***15/10/22***	Visual virus statistics Troyan viruses / Rutkit. SQL Slammer/Sapphire. Sasser. Conficker	
		Problem solving.	
6	***22/10/22***	Macro viruses and viruses in Word Excel Macro.Word family. Methods of protection and macro viruses. Java viruses	[1] p.846-872
		Problem solving.	
7	***29/10/22***	File viruses Polimorf viruses. Network viruses. Satellite viruses.	[1]p.881-900,

		Problem solving	
8	***05/11/22***	Viruses and marketing Chief jurnal informations. Ad viruses.	[1] p.957-984
		Problem solving.	
9		***Mid term exam***	
10	***12/11/22***	Virtual controller Remote control with PC.	[1] p.916-947
		Problem solving	
11	***19/11/22***	Spyware Types of spyware. Top spyware. Types of spyware	[4]p. 73-96
		Problem solving	
12	***26/11/21***	Electronic warfare The electromagnetic environment. Electronic attack. Electronic protection.	[1] p.1061-1085
		Problem solving	
13	***03/12/22***	Electronic warfare support Signals intelligence. Frequency, bandwidth, modulation, and polarization.	[3]p.555-611
		Problem solving.	
14	***10/12/22***	Cyberwarfare Cyberattack. Security hacker. Cracker	[1] page 9-6
		. Problem solving	[1] page 10-6
15	***17.12/22***	Electronic harassment Electromagnetic torture. Targeted individuals False claims of stalking, "gang stalking" and delusions of persecution	[1] page 11-6