

General information	Title and code of subject, number of credits	ETR 630 Fundamentals of Computer Programming 8 credit	
	Department	Physics and Electronics	
	Program	Master	
	Academic semester	2021 fall	
	Lecturer	MSc, MIET, Alim Huseynov	
	E-mail:	Alim.huseynov@gmail.com	
	Phone number:	+99455 425 3599	
	Lecture room/Schedule	11 Mehseti Street, AZ1096 Baku, Azerbaijan (Neftechilar campus), room	
Course language	English		
Type of the subject	Major		
Textbooks and additional materials	Textbooks: <ol style="list-style-type: none"> 1. Computer Fundamentals and Programming in C (RMK) by Anita Goel, Anjay Mittal 2. Computing Fundamentals and C Programming by E. Balagurusamy 3. Computer fundamentals and programming in C by Dey, Pradip Ghosh, Manas 		
Teaching methods	Lecture	+	
	Group discussions at seminars	+	
Assessment	Components	Date/ Deadline	Percent (%)
	Assignment and quizzes	During the semester	20
	Active participation	At each lesson	10
	Midterm exam		30
	Final exam		40
	Final		100
Course description	The computer is often a very handy tool when solving complex technical problems in engineering and scientific explorations. Programming a computer is a fundamental task in finding solutions to such problems. This course is being offered in order to train the undergraduate students in the fundamentals of programming.		
Course objectives	The course aims to provide exposure to problem-solving through programming. It aims to train the student to the basic concepts of the C-programming language. This course involves a lab component which is designed to give the student hands-on experience with the concepts.		
Learning outcomes	After the course the students are expected to be able to (this is what the exams will test) : <ul style="list-style-type: none"> • Identify situations where computational methods and computers would be useful. • Given a computational problem, identify and abstract the programming task involved. • Approach the programming tasks using techniques learned and write pseudo-code. • Choose the right data representation formats based on the requirements of the problem. • Use the comparisons and limitations of the various programming constructs and choose the right one for the task in hand. • Write the program on a computer, edit, compile, debug, correct, recompile and run it. • Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task. 		
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 means of visual aids during seminars. Student's knowledge level will be tested orally and in written forms before midterm and final exams. Submission of the individual works by the end of course is obligatory. Attendance Participation of students at all classes 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. Tests Those students who have informed the teacher and the dean's office about missing the test in advance for particular reasons, are allowed to take the test next week. Exams All the issues related to the participation and admission to the exam are regulated by the faculty dean. Topics of midterm and final exams are provided for the students before the exams. The questions of		

	<p>midterm exam are not repeated in the final exam.</p> <p>Violation of the rules of the exams</p> <p>Disrupting the test and taking copy during midterm and final exams is forbidden. Test papers of the student who do not follow these rules are canceled and the students are expelled from the test by getting 0 (zero).</p> <p>The rule for completing the course</p> <p>In accordance with the University rules the overall success rate to complete the course should be 60% or above. The students who failed the exam would be to take this subject next semester or next year.</p> <p>Rules of conduct for Students</p> <p>Disruption of the lesson and not following ethical norms during the lesson, as well as conduction of the discussions by the students without permission and using mobile phones is forbidden.</p>
--	---

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

Week	Subject topics	Textbooks / Assignments
1.	Basics of computer	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
2.	Data representation and programming fundamentals	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
3.	Data types	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
4.	Variables And Constants	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
5.	Operators And Expressions	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
6.	Decision-Making and Looping Statements	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
7.	Full review of lectures and preparation for midterm exam	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
8.	Arrays	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
9.	Pointers	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
10.	Strings and character arrays	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
11.	Functions	Refer to book 1 & 2

	Conduction of oral and written survey. Problem solving	
12.	Structures And Unions	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
13.	Storage Class And Preprocessor Directives	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
14.	Intruduction to MicroController Programming.	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	
15.	Full lifecycle of Microcontroller based project.	Refer to book 1 & 2
	Conduction of oral and written survey. Problem solving	

