Fundamentals of Computer Programming

Course Code:

CSE 114

Course Period:

Spring

Course Type:

Core

Credits:

5

Theoric:

3

Practice:

1

Laboratory Hour:

2

ECTS:

7

Prerequisite Courses:

Computer Engineering Concepts and Algorithms [1]
Course Language:

English

Course Objectives:

The aim of this course is to provide students the knowledge and abilities to design and implement computer programs.

Course Content:

Introduction to basic programming using the C programming language. The algorithmic approach, declarations, input/output, control structures, functions, dynamic memory allocation, file processing, recursion.

Course Methodology:

1: Lecture, 2: Question-Answer, 3: Lab, 4: Case-study

Course Evaluation Methods:

A: Testing, B: Experiment, C: Homework, D: Project

Course Learning Outcomes	Program Learning Outcomes	Teaching Methods	Assessment Methods
1) Adequate knowledge in C programming language structures.	1	1,2,3	A, B, C
2) Ability to design algorithms to solve problems with various structures.	1	1,2,3	A, B, C
3) Ability to use the theoretical and applied information to design and implement computer programs.	4,5,6	1,2,3	A, B, C

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Lab, 4: Case-study
Assessment Methods:	A: Testing, B: Experiment, C: Homework, D: Project

COURSE CONTENT

Week	Topics	Study Materials
1	Basic Computing Concepts	Textbook
2	Introduction to C Programming	Textbook
3	Structured Program Development	Textbook
4	Program Control	Textbook
5	Program Control	Textbook
6	Functions	Textbook
7	Bitwise Operators	Textbook
8	Arrays	Textbook

9	Pointers	Textbook
10	Characters and Strings	Textbook
11	File Processing	Textbook
12	Recursion	Textbook
13	Structures	Textbook
14	Dynamic Memory Allocation	Textbook

RECOMMENDED SOURCES

Textbook	Problem Solving and Program Design in C, by Jeri R. Hanly Eliot B. Koffman. (6th Edition)
Additional Resources	Lecture Notes: http://cse.yeditepe.edu.tr/v2/en/academic/course-pages [2] Lab material: http://cse.yeditepe.edu.tr/v2/en/academic/course-pages [2]

ASSESSMENT

IN-TERM STUDIES	NUMBER	PERCENTAGE
Mid-terms	2	58
Assignment	11	21
Lab Work	11	21
Total		**100**
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE		30
CONTRIBUTION OF IN-TERM STUDIES TO OVERALL GRADE		70
Total		**100**

COURSE'S CONTRIBUTION TO PROGRAM

No	Program Learning Outcomes	Contribution				
		1	2	3	4	5

1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied information in these areas to model and solve engineering problems.			**X**
2	Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.	X		
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.	X		
4	Ability to devise, select, and use modern techniques and tools needed for engineering practice; ability to employ information technologies effectively.		X	
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating engineering problems.		X	
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually.		X	
7	Ability to communicate effectively both orally and in writing; knowledge of a minimum of one foreign language.			
8	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.		X	
9	Awareness of professional and ethical responsibility.		X	
10	Information about business life practices such as project management, risk management, and change management; awareness of entrepreneurship, innovation, and sustainable development.			
11	Knowledge about contemporary issues and the global and societal effects of engineering practices on health, environment, and safety; awareness of the legal consequences of engineering solutions.	X		

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION

Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Excluding the exam weeks: 12x Total course hours)	12	6	72

Hours for off-the-classroom study (Pre-study, practice)	14	2	28
Midterm examination	2	2	4
Homework	11	5	55
Final examination	1	3	3
Total Work Load			162
Total Work Load / 25 (h)			6.48
ECTS Credit of the Course			7