

ATTACHMENT 5.

Kingdom of Saudi Arabia
The National Commission for Academic Accreditation & Assessment

T6. Course Specifications
(CS)

CS 012 : Computer Programming-1

Course Specifications

Institution: King Khalid University, Abha, Kingdom Of Saudi Arabia, Date of Report: 17/02/2016
College/Department : College of Computer Science/Department of Computer Science

A. Course Identification and General Information

1. Course title and code: Computer Programming-I, 012 CS			
2. Credit hours: 3 hours			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor Degree (Department of Computer Science)			
4. Name of faculty member responsible for the course : Dr. Ali Algarwi, Ms. Reshma Parvez and Mrs Ruhiyat, Mrs Rani			
5. Level/year at which this course is offered: Level-0			
6. Pre-requisites for this course (if any) : 011 CS			
7. Co-requisites for this course (if any) : 113 CS			
8. Location if not on main campus: Al-Sameer, Abha			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="90"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="10"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			
The Assessment part of Quizzes and Assignment is conducted through LMS – Black board system of KCU portal.			

B Objectives

<p>1. What is the main purpose for this course?</p> <p>Computer Programming-1 course is a course about basic programming concepts to begin with students its fundamental concepts of programming using structured Programming language introducing programming language C++. Learns the syntax and semantics of a programming language. Topics covered include basic programming tools, variable names, data types, operators and operands, conditional and iterative structures, Types of Arrays and operations on 1D and 2D arrays, program composition of functions and function definitions, parameter passing to functions, library function concepts are introduced, introduction to file manipulation and Class concepts,.</p>
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> • completion of 100% of this course by blended E-Learning • Increased use of IT or web-based reference materials • Using web for uploading teaching materials • Using multimedia overhead projectors, and electronic screen. • Delivering updated teaching material soft copy or hard copy to the students.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
<p>Programming and Problem-Solving:</p> <p>Topics to be covered: Algorithms and Flowchart Program Design,</p> <p>Introduction to C++, Origins of C++ Language</p>	1	2
<p>Data Types and Operators :</p> <p>Topics to be covered: C++ Basics: Variables and Assignments,</p> <p>Variables, Names: Identifiers Variable Declarations, Assignment</p> <p>Statements Data Types and Expressions: The Types int and double,</p> <p>Other Number Types, The type char, The type Boolean, Type Compatibilities, Arithmetic Operators and Expressions and Logical</p> <p>Operators and , Increment and decrement Operators</p>	1	2

Input and Output: Output Using Cout, Include Directives and Namespaces, Escape Sequences, Formatting for Numbers with a Decimal Point, Input Using Cin, Designing Input and Output	1	2
Simple if nested if and switch statements. Topics to be covered: Conditional Statements: if Selection Statement if...else Double selection Statement, Multiple Selection Statements Switch Case.	1	2
Looping Structures : While loop, do while loop and for loop. Topics to be covered: Looping / Control Statements: For, While and do while Repetition statements.	2	4
Midterm-I Examination		
Initializing and Declaring an 1 DArray Topics to be covered: Introduction to Arrays Declaration	1	2
Searching and sorting using Arrays Topics to be covered :Operations over arrays (Searching and Sorting)	1	2
2-D or Multi-Dimensional Arrays Topics to be covered: Multi-Dimensional Arrays and Operations on Matrices	1	2
Functions, parameter passing , call by value and call by reference Topics to be covered: User Defines Functions, passing values to functions by value and by reference	2	4
File Processing i.e file opening , editing saving and closing. Topics to be covered: File Processing (input/output)	1	2
Midterm -2 Examination		
Structures: Defining ,assigning values, referring structures. Topics to be covered: Defining Structure	1	2
Classes & Objects Topics to be covered: Defining Classes and Objects	2	4

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	30			30		60
Credit	2			1		3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). Second, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. Third, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the concept of Algorithm And flowchart design, implementing algorithms into programming and writing program in C++ as well as the familiarity of oops concept.	Class room lectures	Exams, Assignment, Quizzes
1.2	State the concept of converting flow chart and algorithms into C++ programs, implementing the same using C++ programming software.	Lectures and practical	Assignment and examinations
2.0	Cognitive Skills		
2.1	Cognitive skills to be developed, The ability to write C++ programs ,debug C++ programs. Design and develop a small C++ application	Lectures and practical	Assignment and examinations

2.2	<p>Comparison between programs.</p> <p>Example:</p> <ul style="list-style-type: none"> ➤ What is the output of the code.....? ➤ Find the errors in the code.....? ➤ Write an Algorithm for..... Write a code for ? 	Lectures and practical	Assignment and examinations
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the execution of programs. Two individual assignments requiring investigation using internet and library resources as a means of developing self-study skills.	Lectures and presentation	Online activities
3.2	Analyze the different methods of programming to develop programming skills.	Lectures	Assignment and practical
4.0	Communication, Information Technology, Numerical		
4.1	Implementing the given task syntactically Student assignments for writing algorithms for the given task.	Lectures	
4.2	Solving the given task mathematically, Tackling the given task logically Student assignments for implementing the algorithms in a specific computer language.		
5.0	Psychomotor		
5.1	NA		
5.2	NA		

Map course LOs with the program LOs. (Place course LO #s in the left column and Student LO #s across the top.)

Course LOs #	Student Learning Outcomes Use LOs Code											
	a1	a2	b1	b2	b3	b4	c2	c3	c4	d1	d2	...
1	✓											
2			✓									
3				✓								
4					✓							
5						✓						
6								✓				
7									✓			
8											✓	

6. Schedule of Assessment Tasks for Students During the Semester

Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment

1	Midterm Examination - I	6	10%
2	Practical Examination - I	9	10%
3	Midterm Examination - II	12	10%
4	Practical Examination - II	14	10%
5	Assignments	After Every Chapter	5%
6	Quizzes	After Every Chapter	5%
7	Final Examination	16	15%
8			

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (includes amount of Time teaching staff are expected to be available each week as their office hours and interact with students, guide them and motivate them towards the enhancements of their performance)

Every week 3 hours the staff is available for clarifying doubts and discussions.

E. Learning Resources

1. List Required Textbooks

Problem Solving with C**, Walter Savitch. Third Edition, 2001.

Programming language C**, Black Second Edition 2003

2. List Essential References Materials (Journals, Reports, etc.)

Problem Solving with C**, Walter Savitch.

- Third Edition, 2001.

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

1.Thinking in C++ (vol 1 &2)- Bruce Eckel, Second Edition 2003

2. The C++ Programming Language – Bjarne Stroustrup, Third edition 2003

4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

[http : //www. learncpp. Com](http://www.learncpp.com), [http ://www.w3 schools. com/](http://www.w3schools.com/), [http://www.cprogramming. com](http://www.cprogramming.com)

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Microsoft Visual C++ software for implementing programs

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms - 01

Number of seats in each class room - 50

Laboratories - 02

Accessories - Overhead projector

2. Computing resources (AV, data show, Smart Board, software, etc.)

Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students

Internet access

Networked laboratory systems

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Confidential completion of standard course evaluation questionnaire assessed by students.
- Conversate in group discussion with small groups of students so as to get the feedback

2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor

Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.

3 Processes for Improvement of Teaching

Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Monitoring the marking of individual staff member of a sample of student work, periodic exchange and remarking of tests or a sample of assignments based on marking and evaluations done by staff), Check marking of a sample of examination papers.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Implementing in the course strategies the application oriented problems and exercises that enables students to adhere to the Concepts and program solving logically. Different strategies can be selected to align with the curriculum taught, owing the needs of students, and the intended learning outcomes. lab demonstrations, Analysis methods for programming, example illustrations, individual presentation, brainstorming, and a wide variety of hands-on activities all this supports to enhance the course effectiveness.

Faculty or Teaching Staff: Ms. Reshma Parvez (Course Coordinator)


Signature:



Date Report Completed: 17/02/2016

Dean/Department Head: Dr. Nasser Tairan

Signature:



Date:

3/4/2016