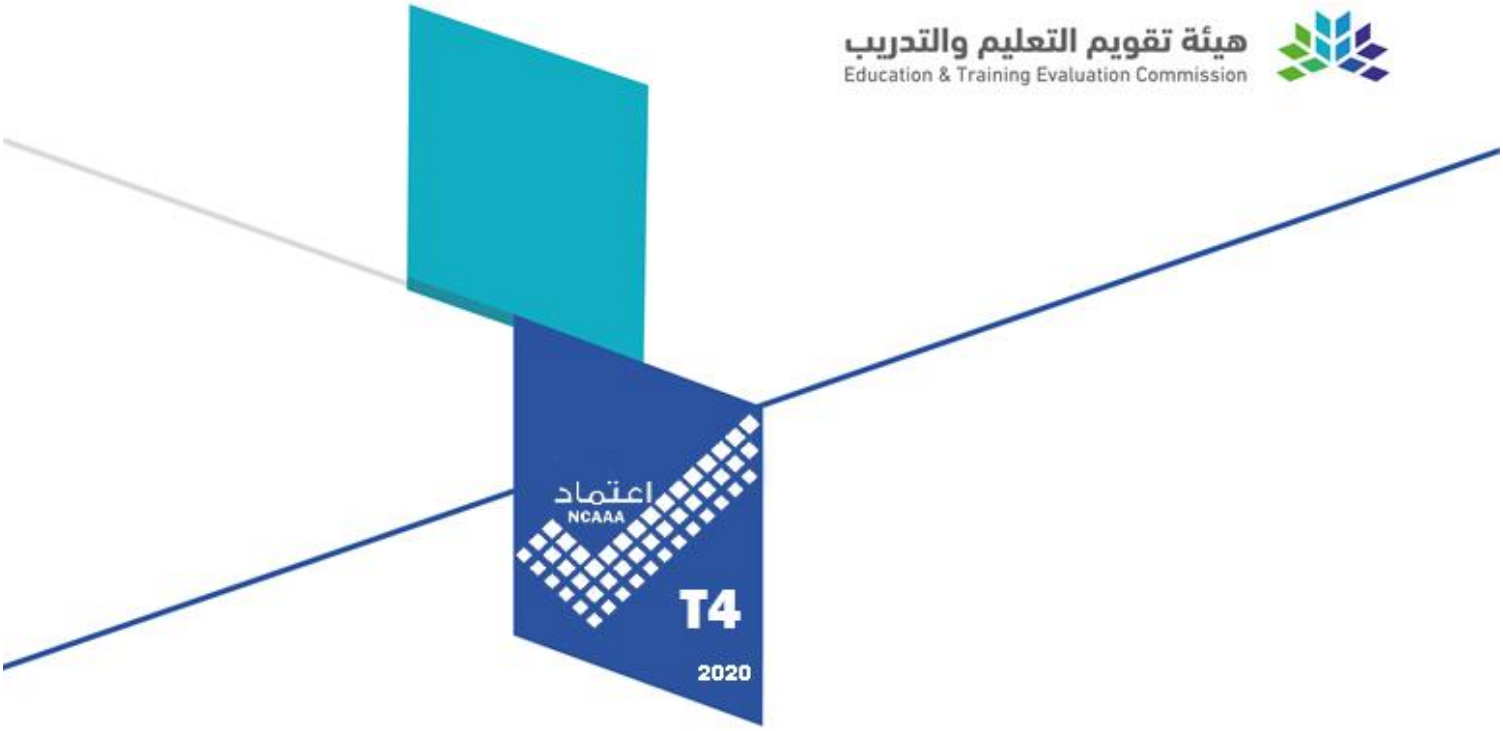
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Programming 2
Course Code:	CSI 221
Program:	B.Sc.
Department:	Computer Science and Information
College:	College of Science AL Zulfi
Institution:	Al Majmaah University

Table of Contents

A. Course Identification

1. Credit hours:
2. Course type **a.** University ☐ College ☐ Department ☐ Others ☐ **b.** Required ☐ Elective ☐
3. Level/year at which this course is offered: 4th / 2019
4. Pre-requisites for this course (if any)**:** **CSI 211-Programming 1**
5. Co-requisites for this course (if any)**:**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	48	80 %
2	**Blended**	6	10 %
3	**E-learning**	6	10 %
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	20
3	**Tutorial**	10
4	**Others** (specify)	
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course is to introduce students to the fundamentals concepts of object oriented programing. Topics to be covered include: Introduction to functions, array, pointers, Introduction to input / output file streams, Array of pointers, Introduce to the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design, Class and method (constructor, overloading , method),Pointers and Iterators, Class Inheritance, Polymorphism, Exception Handling.

2. Course Main Objective

The main objectives of the course are: Learn the pointer and relation with array, in C++. And how to use pointers vs array into programming, Understand/Apply class data type with its constructor, destructor, and using objects of classes into the structure of programs, Understand/Apply inheritance, and how to inherited classes, Understand/Apply polymorphism on Object Oriented programming.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Students will have a skills for upgrade their simple programs in C++.	
1.2	Students will have an understanding of programming based on object , and complex programming.	
1.3	Students will understand the concepts of and techniques used in C++ programming like classes, polymorphism.	
1...		
2	**Skills :**	
2.1	Apply C++ program structure and the VC++ object.	
2.2	Students will be able to analyze programming problems .	
2.3	Students will learn to think about life solutions by programming skills.	
2...		
3	**Values:**	
3.1	Apply derived knowledge using concept of object oriented programming which will be utilized commercial applications.	
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	A review of control structures and data types with emphasis on structured data types and array processing, review syntax of functions and primitive data types.	8
2	Introduction to input / output file streams.	4
3	Array of pointers	4
4	Introduce to the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design	8
5	Class and method (constructor, overloading , method)	8
6	Pointers and Iterators	8
7	Class Inheritance	8
8	Polymorphism	4
9	Exception Handling	8
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Students will have a skills for upgrade their simple programs in C++.	Lectures, Individual presentations &	Quiz , Mid Exam , Assignment, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		Brainstorming exercises	Exam, Individual demonstrations.
1.2	Students will have an understanding of programming based on object , and complex programming.	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
1.3	Students will understand the concepts of and techniques used in C++ programming like classes, polymorphism.	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
2.0	**Skills**		
2.1	Apply C++ program structure and the VC++ object.	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
2.2	Students will be able to analyze programming problems .	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
1.3	Students will learn to think about life solutions by programming skills.	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
3.0	**Values**		
3.1	Apply derived knowledge using concept of object oriented programming which will be utilized commercial applications.	Lectures, Individual presentations & Brainstorming exercises	Quiz , Mid Exam , Assignment, Final Exam, Individual demonstrations.
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes		10 %
2	Mid Exams		30 %
3	Assignments		10 %
4	Group Discussion, Presentation		10 %
5	Final Exam		40 %

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	C++: How to Program, 10th edition, Deitel & Deitel, Prentice Hall, 2013.
Essential References Materials	C++ Programming: From Problem Analysis to Program Design, 6th , D. De Malik, course technology , 2012. ISBN 978-1133626381
Electronic Materials	Determines as the course is going on.
Other Learning Materials	Videos and presentations are available with instructor

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms and Labs as those that are available at college of science Az Zulfi
Technology Resources (AV, data show, Smart Board, software, etc.)	Smart Board and required software
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	N/A

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date