

**Andlus UNIVERSITY**

**FACULTY OF INFORMATION TECHNOLOGY (FCIT)**

**Quality Assurance Unit (QUA)**

**DEPARTMENT OF INFORMATION TECHNOLOGY**

**PROGRAM OF INFORMATION TECHNOLOGY**

**Course Specification of Computer Program 1**

**Semester Second year First**

**2014**

## Template for Course Specification

I. Course Identification and General Information:						
1	Course Title:	Computer Programming 1				
2	Course Code &Number:					
3	Credit hours: 3	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
		2	-	2	-	4
4	Study level/Semester at which this course is offered:	1 <sup>st</sup> year - 2 <sup>nd</sup> Semester				
5	Pre –requisite (if any):	Introduction to Programming language				
6	Co –requisite (if any):	N/A				
7	Program (s) in which the course is offered:	Program in Computer network				
8	Language of teaching the course:	English/Arabic				
9	Location of teaching the course:	Class and Lab				
10	<b>Prepared By:</b>	Dr. Saleh Alasali				
11	Date of Approval					

### II. Course Description:

This course includes introduction to basic programming concepts through the use of a high-level programming language such as C++. It covers program's structure, the basic notions and statements such as data types, variables, constants, input/outputs operations, mathematical and logical operations, if –else statements and for, while loops for the implementation of small programs in a high-level programming language. Also it includes Introduction to one dimension array and user-made functions .

### III. Intended learning outcomes (ILOs) of the course:

After the completion of the course the student will be able to:

1. Understand the program's structure of the studied computer program language . A1
2. Explain the basic notions and statements of computer program language . A2
3. Identify and apply basic concepts of a high level programming language correctly. B1
4. Write small computer program in the studied language. B2
5. Compile and Execute computer program in the studied language.C1
6. Locate and correct errors in programs written in the studied language . C2
7. Deal with computer program to solve small problems. D1

#### (A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>A1-</b> Understand the program's structure of the studied computer program language	<b>Lecture</b> The lecturer describes the program's structure of C++	Mid-term exam Final Exam Homework Reports
<b>A2-</b> Explain the basic notions and statements of computer program language in (C++)	<b>Lecture</b> The lecturer describes the concept of programming and basic notions and statements of computer program language in (C++) and how to write simple program.	<b>Oral Exam</b> <b>Homework</b>

#### (B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>B1-</b> Identify and apply basic concepts of a high level programming language correctly	<b>Lecture</b>	Exam, Homework and Dissection
<b>B2-</b> Write small computer program to solve simple numerical	<b>Lecture</b>	Exam, Homework and Dissection

#### (C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>C1-</b> Compile and Execute computer program in the studied language	<b>Lab</b>	Practical Exam Write a program and execute it in the lab Homework
<b>C2-</b> Locate and correct errors in programs written	<b>Lab</b>	Practical Exam

in the studded language		Write a program and execute it in the lab Homework
<b>(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>D1-</b> Demonstrate the ability to work effectively as part of a group	<b>Group Discussion</b>	<b>Presentation Project</b>

<b>IV. Course Content:</b>					
<b>A – Theoretical Aspect:</b>					
Order	Units/Topics List	Learning Outcomes	Sub Topics List	Number of Weeks	contact hours
1	Introduction to programming languages.	A,B ,C	-History of programming languages. General structures of the program in C++	1	2
2	<b>Data types</b>	A,B ,C	- Directives , variables declarations and data types with memory locations	1	2
3	Inputs and outputs operation in C++	A,B ,C	input and output instructions.	1	2
4	<b>Mathematical and logical operations</b>		<b>Mathematical and logical operations</b>	1	2
5	<b>If – else statement Switch Case statement</b>		<b>If – else statement Switch Case statement</b>	3	6
6	<b>For loop and random numbers generation</b>		<b>For loop operations, and random numbers generation operations</b>	2	4
	<b>While loop</b>		<b>While loop</b>	2	4
7	User made functions		- User made functions.	1	2
8	One dimension array		One dimension array	2	4
<b>Number of Weeks /and Units Per Semester</b>				<b>14 week</b>	

<b>B - Practical Aspect: (if any)</b>				
Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	<b>C++ environment</b>	<b>1</b>	<b>2</b>	<b>A,B,C</b>

2	Program with Input/output operations	2	4	A,B,C
3	Program with Mathematical and logical operations	2	4	A,B,C
4	Program with If – else statement	2	4	A,B,C
5	Program with Switch Case statement	2	4	A,B,C
6	Program with for loop operations	2	4	A,B,C
7	Program with while loop operations	2	4	A,B,C
Number of Weeks /and Units Per Semester				

## V. Teaching strategies of the course:

Lecture ,Discussion, Case study, Project ,Presentation

## VI. Assignments:

No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Programs deal with Input/output operations	A,B,C	2	1
2	Programs perform Mathematical and logical operations	A,B,C	3	1
3	Programs deal with If – else statement	A,B,C	5	2
4	Programs deal with Switch Case statement	A,B,C	6	2
5	Programs deal with for loop operations	A,B,C	8	2
6	Programs deal with while loop operations	A,B,C	10	2

## VII. Schedule of Assessment Tasks for Students During the Semester:

No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Homework		10	10%	A,B,C
2	Quizzes		5	5%	
3	Mid-term exam (practical)		5	5%	
4	Mid-term exam (theoretical)		15	15%	
5	Lab-reports				
6	Final exam (practical)		15	15%	
7	Final exam (theoretical)		50	50%	

8					
9					
<b>VIII. Learning Resources:</b>					
<ul style="list-style-type: none"> <li>• <i>Written in the following order: ( Author - Year of publication – Title – Edition – Place of publication – Publisher).</i></li> </ul>					
<b>1- Required Textbook(s) ( maximum two ).</b>					
	1. Timothy D’Orazio, " <b>Programming in C++</b> ", McGraw Hill, 2009. 2. D. S. Malik, " <b>C++ programming</b> ", Second Edition, Thomson Publishing, 2012				
<b>2- Essential References.</b>					
	1- Bruce Eckel, " <b>Thinking in C++</b> ", Second Edition, Prentice Hall, 2010. 2- Goran Svenk, " <b>Object Oriented Programming using C++ for Engineering and Technology</b> ", Thomson publishing, 2012. 3- Walter Savitch, " <b>Problem Solving: The object of programming</b> ", Fourth Edition, Addison Wesley, 2009.				
<b>3- Recommended Books and Reference Materials.</b>					
	1. 2. 3. 4. 5.				
<b>4- Electronic Materials and Web Sites etc.</b>					
	1. 2. 3.				
<b>5- Other Learning Material.</b>					
	1. 2. 3.				

<b>IX. Course Policies:</b>	
<b>1</b>	<b>Class Attendance:</b> -
<b>2</b>	<b>Tardy:</b> -
<b>3</b>	<b>Exam Attendance/Punctuality:</b> -

<b>4</b>	<b>Assignments &amp; Projects:</b> -
<b>5</b>	<b>Cheating:</b> -
<b>6</b>	<b>Plagiarism:</b>
<b>7</b>	<b>Other policies:</b> -

**Template for Course plan (Syllabus)**

I. - Information about Faculty Member Responsible for the Course:							
Name of Faculty Member	D/Sleh Alasali	Office Hours					
Location&Telephone No.	Sana'a 711914448	SAT	SUN	MON	TUE	WED	THU
E-mail							

11 Course Identification and General Information						
1	Course Title:	Computer Programming 1				
2	Course Code &Number:					
3	Credit hours: 3	C.H				TOTAL
		Th.	Seminar	Pr	Tr.	
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## X. Course Description:

This course includes introduction to basic programming concepts through the use of a high-level programming language such as C++. It covers program's structure, the basic notions and statements such as data types, variables, constants, input/outputs operations, mathematical and logical operations, if-else statements and for, while loops for the implementation of small programs in a high-level programming language. Also it includes Introduction to one dimension array and user-made functions.

## XI. Intended learning outcomes (ILOs) of the course:

After the completion of the course the student will be able to:

1. Understand the program's structure of the studied computer program language. A1
2. Explain the basic notions and statements of computer program language. A2
3. Identify and apply basic concepts of a high level programming language correctly. B1
4. Write small computer program in the studied language. B2
5. Compile and Execute computer program in the studied language. C1
6. Locate and correct errors in programs written in the studied language. C2
7. Deal with computer program to solve small problems. D1

### (A) Alignment Course Intended Learning Outcomes of Knowledge and Understanding to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>A1-</b> Understand the program's structure of the studied computer program language	<b>Lecture</b> The lecturer describes the program's structure of C++	Mid-term exam Final Exam Homework Reports
<b>A2-</b> Explain the basic notions and statements of computer program language in (C++)	<b>Lecture</b> The lecturer describes the concept of programming and basic notions and statements of computer program language in (C++) and how to write simple program.	<b>Oral Exam</b> <b>Homework</b>

### (B) Alignment Course Intended Learning Outcomes of Intellectual Skills to Teaching Strategies and Assessment Strategies:

Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>B1-</b> Identify and apply basic concepts of a high level programming language correctly	<b>Lecture</b>	Exam, Homework and Dissection
<b>B2-</b> Write small computer program to solve simple	<b>Lecture</b>	Exam, Homework and Dissection

numerical		

<b>(C) Alignment Course Intended Learning Outcomes of Professional and Practical Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>C1-</b> Compile and Execute computer program in the studied language	<b>Lab</b>	Practical Exam Write a program and execute it in the lab Homework
<b>C2-</b> Locate and correct errors in programs written in the studied language	<b>Lab</b>	Practical Exam Write a program and execute it in the lab Homework
<b>(D) Alignment Course Intended Learning Outcomes of Transferable Skills to Teaching Strategies and Assessment Strategies:</b>		
Course Intended Learning Outcomes	Teaching strategies	Assessment Strategies
<b>D1-</b> Demonstrate the ability to work effectively as part of a group	<b>Group Discussion</b>	<b>Presentation Project</b>

Order	List of Topics	Week due	contact hours
1	Introduction to programming languages. -History of programming languages. General structures of the program in C++	1	2
2	<b>Data types</b> Directives , variables declarations and data types with memory locations	2	2
3	Inputs and outputs operation in C++	3	2
4	<b>Mathematical and logical operations</b>	4	2
5	<b>If – else statement</b> <b>Switch Case statement</b>	5-7	6
6	<b>Mad term exam</b>	8	2
6	<b>For loop and random numbers generation</b>	9, 10	4
	<b>While loop</b>	11,12	4
7	User made functions and one dimension array	13, 15	6
8	Final exam	16	2
	<b>Number of Weeks /and Units Per Semester</b>	16	32

<b>B - Practical Aspect: (if any)</b>				
Order	Tasks/ Experiments	Number of Weeks	contact hours	Learning Outcomes
1	C++ environment	1	2	A,B,C
2	Program with Input/output operations	2	4	A,B,C
3	Program with Mathematical and logical operations	2	4	A,B,C
4	Program with If – else statement	2	4	A,B,C
5	Program with Switch Case statement	2	4	A,B,C
6	Program with for loop operations	2	4	A,B,C
7	Program with while loop operations	2	4	A,B,C
Number of Weeks /and Units Per Semester				

<b>XII. Teaching strategies of the course:</b>
Lecture ,Discussion, Case study, Project ,Presentation

<b>XIII. Assignments:</b>				
No	Assignments	Aligned CILOs(symbols)	Week Due	Mark
1	Programs deal with Input/output operations	A,B,C	2	1
2	Programs perform Mathematical and logical operations	A,B,C	3	1
3	Programs deal with If – else statement	A,B,C	5	2
4	Programs deal with Switch Case statement	A,B,C	6	2
5	Programs deal with for loop operations	A,B,C	8	2
6	Programs deal with while loop operations	A,B,C	10	2

<b>XIV. Schedule of Assessment Tasks for Students During the Semester:</b>					
No.	Assessment Method	Week Due	Mark	Proportion of Final Assessment	Aligned Course Learning Outcomes
1	Homework		10	10%	A,B,C

2	Quizzes		5	5%	
3	Mid-term exam (practical)		5	5%	
4	Mid-term exam (theoretical)		15	15%	
5	Lab-reports				
6	Final exam (practical)		15	15%	
7	Final exam (theoretical)		50	50%	
8					
9					

## XV. Learning Resources:

- *Written in the following order: ( Author - Year of publication - Title - Edition - Place of publication - Publisher).*

### 1- Required Textbook(s) ( maximum two ).

3. Timothy D'Orazio, "**Programming in C++**", McGraw Hill, 2009.
4. D. S. Malik, "**C++ programming**", Second Edition, Thomson Publishing, 2012

### 2- Essential References.

- 4- Bruce Eckel, "**Thinking in C++**", Second Edition, Prentice Hall, 2010.
- 5- Goran Svenk, "**Object Oriented Programming using C++ for Engineering and Technology**", Thomson publishing, 2012.
- 6- Walter Savitch, "**Problem Solving: The object of programming**", Fourth Edition, Addison Wesley, 2009.

### 3- Recommended Books and Reference Materials.

- 6.
- 7.
- 8.
- 9.
- 10.

### 4- Electronic Materials and Web Sites etc.

- 4.
- 5.
- 6.

### 5- Other Learning Material.

- 12
- 13
- 14

## XVI. Course Policies:

- 1 **Class Attendance:**  
-

<b>2</b>	<b>Tardy:</b> -
<b>3</b>	<b>Exam Attendance/Punctuality:</b> -
<b>4</b>	<b>Assignments &amp; Projects:</b> -
<b>5</b>	<b>Cheating:</b> -
<b>6</b>	<b>Plagiarism:</b>
<b>7</b>	<b>Other policies:</b> -