

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليم العالي
Syrian Virtual University		الجامعة الافتراضية السورية

## Course Definition:

### 1- Basic Information:

Course Name	Object Oriented Programming
Course ID	OO
Contact Hours (Registered Sessions)	12
Contact Hours (Synchronized Sessions)	12
Mid Term Exam	-
Exam	1h. 15min.
Registered Sessions Work Load	1hour for each registered hour
Synchronized Session Work Load	2 hour for each synchronized session hour
Credit Hours	3

### 2- Pre-Requisites:

Course	ID
Programming 2	Cp2

### 3- Course General Objectives:

This course aims to introduce basic Object Oriented Programming concepts and techniques, and to use Object Oriented languages in order to build elegant, scalable, and maintainable programs.

In this course, the learner is introduced to concepts such as: classes, objects, constructors, methods, properties, functions and operators overloading, classes composition, inheritance, polymorphism, virtual methods, abstract classes, interfaces, and event driven programming.

At the end of the course, the learner should be able to use and implement these concepts properly using an Object Oriented Language. The learners should be able to analyze problem requirements in an Object Oriented approach, design Object Oriented solution, and implement the solution using Object Oriented Techniques. At the end of the course, the learner should be familiar with the Visual Studio IDE and should be able to build Object Oriented console or windows applications.

### 4- Intended Learning Outcomes (ILO):

Code	Intended Learning Outcomes
ILO1	Comprehending basic concepts that lead to the Object model: encapsulation, information hiding, hierarchy, and modularity. Applying these concepts to create Classes and Objects, and use these constructs in programs.

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليم العالي
Syrian Virtual University		الجامعة الافتراضية السورية

<b>ILO2</b>	Comprehending class composition concept and techniques, and applying this concept to solution programming.
<b>ILO3</b>	Comprehending class inheritance concept and techniques, and applying this concept to solution programming.
<b>ILO4</b>	Comprehending polymorphism concept and its implementation using virtual methods, and applying the concept to solution programming.
<b>ILO5</b>	Comprehending abstract classes and interfaces, and applying the concept to solution programming.
<b>ILO6</b>	Comprehending event driven applications concept, and applying the concept to build Windows Application in C# .

### 5- Course Syllabus (18 hours of total synchronized sessions)

- **RS:** Recorded Sessions; **SS:** Synchronized Sessions;

ILO	Course Syllabus	RS	SS	Type	Additional Notes
<b>ILO1</b>	Comprehending basic concepts that lead to the Object model: encapsulation, information hiding, hierarchy, and modularity. Applying these concepts to create Classes and Objects, and use these constructs in programs.	3	3	assignments	Exercises
<b>ILO2</b>	Comprehending class composition concept and techniques, and applying this concept to solution programming.	1.5	3	assignments	Exercises
<b>ILO3</b>	Comprehending class inheritance concept and techniques, and applying this concept to solution programming.	1.5	3	assignments	Exercises
<b>ILO4</b>	Comprehending polymorphism	3	6	assignments	Exercises

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليم العالي
Syrian Virtual University		الجامعة الافتراضية السورية

	concept and its implementation using virtual methods, and applying the concept to solution programming.				
<b>ILO5</b>	Comprehending abstract classes and interfaces, and applying the concept to solution programming.	1.5	1.5	assignments	
<b>ILO6</b>	Comprehending event driven applications concept, and applying the concept to build Windows Application in C# .	1.5	1.5		Exercises

## 6- Assessment Criteria (Related to ILOs)

ISC	Interactive Synchronized Collaboration	Ex	Exams	Rpt	Reports
PF2F	Presentations and Face-to-Face Assessments	PW	Practice Work		

ILO Code	ILO	Intended Results	Assessment Type				
			ISC	PW	Ex	PF2F	Rpt
<b>ILO1</b>	Comprehending basic concepts that lead to the Object model: encapsulation, information hiding, hierarchy, and modularity. Applying these concepts to create Classes and Objects, and use these constructs in programs.		✓	✓	✓		✓
<b>ILO2</b>	Comprehending class composition concept and techniques, and applying this concept to solution programming.		✓	✓	✓		✓

Syrian Arab Republic	 الجامعة الافتراضية السورية SYRIAN VIRTUAL UNIVERSITY	الجمهورية العربية السورية
Ministry of Higher Education		وزارة التعليم العالي
Syrian Virtual University		الجامعة الافتراضية السورية

<b>ILO3</b>	Comprehending class inheritance concept and techniques, and applying this concept to solution programming.		✓	✓	✓		✓
<b>ILO4</b>	Comprehending polymorphism concept and its implementation using virtual methods, and applying the concept to solution programming.		✓	✓	✓		✓
<b>ILO5</b>	Comprehending abstract classes and interfaces, and applying the concept to solution programming.		✓		✓		✓
<b>ILO6</b>	Comprehending event driven applications concept, and applying the concept to build Windows Application in C# .		✓	✓	✓		

## 7- Practice Tools:

Tool Name	Description
Visual studio	IDE supporting programming languages: C++, C#, JAVA,.....

## 8- Main References

C++ How to Program, 10<sup>th</sup> edition, Deitel & Deitel , 2017, Pearson Education, Inc.

C# 6 for Programmers, 6<sup>th</sup> edition , Deitel & Deitel, 2017, Pearson Education, Inc.

C# School, Programming Heaven, Faraz Rasheed C# School,

## 9- Additional References

Websites.