TISHK INTERNATIONAL UNIVERSITY
FACULTY OF SCIENCE
Department of INFORMATION TECHNOLOGY,
2021-2022 Fall
Course Information for IT 311 OBJECT ORIENTED PROGRAMMING I

Course Name:	OBJECT ORIENTED PROGRAMMING I

Code	Regular Semester	Theoretical	Practical	Credits	ECTS
IT 311	5	2	2	3	

Name of Lecturer(s)-Academic Title:	Mohammad Salim It -
Teaching Assistant:	Yassmine
Course Language:	English
Course Type:	Main
Office Hours	Sun and Mon, 2 to 4 pm
Contact Email:	mhmadip@gmail.com Tel:07508608162
Teacher's academic profile:	Mobile Applications Cloud Computing Web design Big Data
Course Objectives:	The aim of this course is to teach you to apply your knowledge of OOP concepts and apply them in the Flutter framework to become a Flutter developer who can build different kinds of applications using a single code-base, for example creating an application that works for both Android and iOS using only a Dart code.
Course Description (Course overview):	Continuing from the foundations of programming in C++, this course starts introducing the students to the concepts of object oriented programing, OOP, in general and it is implementation. It will cover the concepts of encapsulation, inheritance and polymorphism.

COURSE CONTENT

Week	Hour	Date	Topic
1	2	4-7/10/2021	Introduction to OOP , Class diagram
2	2	10-14/10/2021	Introduction to OOP , Class diagram and Dart Packages
3	2	17-21/10/2021	Section 1: Build Your First Flutter App, structure of Flutter projects, create the UI of a Flutter app by Widgets
4	2	24-28/10/2021	Section 2: Everything's a Widget, start to build a full-featured recipe app named Fooderlich
5	2	31/10-4/11/2021	Section 2: Everything's a Widget, layout widgets, scrollable widgets and interactive widgets
6	2	7-11/11/2021	Section III: Navigating Between Screens, routes and navigation
7	2	14-18/11/2021	Midterm Exam
8	2	21-25/11/2021	Midterm Exam
9	2	28/11-2/12/2021	Section III: Navigating Between Screens : deep links and URLs
10	2	5-9/12/2021	Section IV: Networking, Persistence & State: Share Preference
11	2	12-16/12/2021	Section IV: Networking, Persistence & State: Serialization with JSON
12	2	19-23/12/2021	Section IV: Networking, Persistence & State: Networking in Flutter
13	2	26-30/12/2021	Section IV: Networking, Persistence & State: Chopper Library
14	2	2-5/1/2022	Section IV: Networking, Persistence & State: State Management
15	2	9-13/1/2022	Final Exam
16	2	16-20/1/2022	Final Exam

COURSE/STUDENT LEARNING OUTCOMES

1	Greater understanding of OOP concepts in general

2	Apply Object Oriented Programming concepts in Dart
3	Reflection of OOP into Flutter Apps
4	Improve team working skills through building a project for real business

COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES

(Blank : no contribution, I: Introduction, P: Profecient, A: Advanced)

	Program Learning Outcomes	**Cont.**
1	Analyze a problem, and identify the computing requirements appropriate to its solution	I
2	Design, implement, and evaluate computer-based systems, process, component, or program to meet desired needs	I
3	Function effectively in teams to accomplish a common goal	I
4	Identify professional, ethical, legal, security, social, and economic issues and responsibilities	I
5	Analyze the local and global impact of computing on individuals, organizations, and society	I
6	Use current techniques, skills, and tools necessary for computing practice	I
7	Apply current technical concepts and practices in the core information technologies of human computer interaction, information management, programming, networking, web systems and technologies	I
8	Identify and analyze user needs and take them into account in the selection, creation, evaluation and administration of computer-based systems	I
9	Effectively integrate it-based solutions into the user environment	I
10	Apply problem solving skills, core it concepts, best practices and standards to information technologies	P
11	Identify and evaluate organizational requirements and current and emerging technologies	I
12	Design and integrate it-based solutions into the organizational environment	P

Prerequisites (Course Reading List and References):	Passed in Programming I. Previous knowledge about programming of at least one of the following: Java, C++, C#, or Javascript.
Student's obligation (Special Requirements):	The student has a PC with Internet and installing Flutter SDK on that PC. Having a solid basic knowledge of the Java programming language, C#, or C++

Weekly Laboratory/Practice Plan:

Week	**Hour**	**Date**	**Topics**
1	2	4-7/10/2021	Introduction to OOP , Class diagram
2	2	10-14/10/2021	Introduction to OOP , Class diagram with Dart Packages
3	2	17-21/10/2021	Section 1: Build Your First Flutter App
4	2	24-28/10/2021	Section 2: Everything’s a Widget, start to build a full-featured recipe app named Fooderlich
5	2	31/10-4/11/2021	Section 2: continue building Fooderlich app
6	2	7-11/11/2021	Section III: Navigating Between Screens, continue working on the Fooderlich app
7	2	14-18/11/2021	Midterm Exam
8	2	21-25/11/2021	Section III: Navigating Between Screens : continue working on the Fooderlich app
9	2	28/11-2/12/2021	Section IV: Networking, Persistence & State: Share Preference, build a new app that lets you search the Internet for recipes, bookmark recipes and save their ingredients into a shopping list.
10	2	5-9/12/2021	Section IV: Networking, Persistence & State: Serialization with JSON, build a new app that lets you search the Internet for recipes, bookmark recipes and save their ingredients into a shopping list.
11	2	12-16/12/2021	Section IV: Networking, Persistence & State: Networking in Flutter, build a new app that lets you search the Internet for recipes, bookmark recipes and save their ingredients into a shopping list.
12	2	19-23/12/2021	Section IV: Networking, Persistence & State: Chopper Library, build a new app that lets you search the Internet for recipes, bookmark recipes and save their ingredients into a shopping list.

	13	2	26-30/12/2021	Holiday
	14	2	2-5/1/2022	Section IV: Networking, Persistence & State: State Management, build a new app that lets you search the Internet for recipes, bookmark recipes and save their ingredients into a shopping list.
	15	2	9-13/1/2022	Final Exam
	16	2	16-20/1/2022	Final Exam

Course Book/Textbook:	Flutter Apprentice (Second Edition): Learn to Build Cross-Platform Apps October 5, 2021 by raywenderlich Tutorial Team, Michael Katz, Kevin David Moore, Vincent Ngo Sgin Up for free from October 6, 2021 through January 6, 2022. : How to sign up! Here's what you need to do: 1- Create an account on raywenderlich.com/flutter. 2- Read Flutter Apprentice Book.
Other Course Materials/References:	https://www.tutorialspoint.com/dart_programming/dart_programming_classes.htm https://dart.dev/guides/language/effective-dart https://iq.opengenus.org/oop-dart/ https://levelup.gitconnected.com/fluttering-dart-oop-8b92cd89a7f0
Teaching Methods (Forms of Teaching):	Lectures, Practical sessions, Presentation, Project, Assignments, , ,

COURSE EVALUATION CRITERIA

Method	Quantity	Percentage (%)
Quiz	1	5
Homework	1	10
Project	1	15
Midterm Exam	1	20
Laboratory	10	1
Final Exam	1	40
Total		**100**

Examinations: True-False, Fill in the Blanks, Multiple Choices, Short Answers, Matching, , ,

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	Quantity	Workload Hours for 1 quantity*	Total Workload
Theoretical Hours	16	2	32
Practical Hours	16	2	16
Final Exam	1	5	5
Quiz	1	1	1
Homework	1	5	5
Project	1	2	2
Midterm Exam	1	1	1
Laboratory	10	1	10
Total Workload			**72**
ECTS Credit (Total workload/25)			**2.88**

Peer review

Signature:	Signature:	Signature:
Name:	Name:	Name:
Lecturer	Head of Department	Dean