

COURSE OUTLINE

1. GENERAL

SCHOOL	BUSINESS AND ECONOMICS		
DEPARTMENT	BUSINESS ADMINISTRATION		
DIVISION	BUSINESS ADMINISTRATION		
LEVEL OF STUDY	UNDERGRADUATE		
COURSE UNIT CODE	1103503	SEMESTER OF STUDY	5
COURSE TITLE	OBJECT ORIENTED PROGRAMMING		
COURSEWORK BREAKDOWN		TEACHING WEEKLY HOURS	ECTS Credits
Lectures, Workshops and Laboratory Exercises		6	6
COURSE UNIT TYPE	SPECIAL BACKGROUND COURSE		
PREREQUISITES :	INTRODUCTION TO INFORMATICS AND COMPUTER PROGRAMMING		
LANGUAGE OF INSTRUCTION/EXAMS:	GREEK		
COURSE DELIVERED TO ERASMUS STUDENTS	YES		
MODULE WEB PAGE (URL)	http://moodle.teipir.gr/course/info.php?id=62		

2. LEARNING OUTCOMES

Learning Outcomes
<p>The course aims to equip the students with the necessary theoretical knowledge and practical skills relating to the current methodology and technology of software development. Particularly, emphasis is given to:</p> <ul style="list-style-type: none"> the development of applications in Window environment (GUI) WEB environment. the methodological approach and techniques of object-oriented programming <p>Upon successful completion of this course, students will be able to:</p> <ul style="list-style-type: none"> Describe and identify concepts related to object-oriented programming such as classes, objects, polymorphism, inheritance, abstraction and encapsulation. Describe and apply methodological approaches and techniques for designing and development of software applications utilising the object-oriented programming approach. Design small scale applications using the Design language UML. Develop small scale software applications using classes, objects, structures, interfaces, event handlers and overlapping functions. Compose programs by following syntax rules of object oriented programming. Utilize libraries of the WINDOWS programming environment.
General Skills
<ul style="list-style-type: none"> Individual work Teamwork Search, analysis and aggregation of data and information with the utilisation of the required technology Planning and management of a project

3. COURSE CONTENTS

<ul style="list-style-type: none"> Introduction to Object Oriented Programming (OOP)

- Methodological frame for OOP
- Design software applications
- The UML object oriented design language
- Software Development Environments for OOP
- Programming Language for OOP (C++, C#, Visual Basic, JAVA)
 - Variables and operands
 - Data types, structures
 - Commands
 - Assignment Operands
 - Subroutines and functions
 - Classes and Objects
 - Interfaces
 - Properties and Methods
 - Arrays, Indexers and enumerators
 - Delegates and Events
 - Event handlers
- Polymorphism and Inheritance
- Subtraction and encapsulation
- File management
- Libraries

The practical part of the course includes the development of real world application in one of the following programming tools (VISUAL Studio.NET, C++, JAVA)

4. TEACHING METHODS - ASSESSMENT

MODE OF DELIVERY	In-Class	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY	Support of the learning process through the LMS platform of PUAS. Software Development Platforms such as Visual Studio.NET Software Design Tools (MS VISIO 2013) for Object Oriented Programming.#	
TEACHING METHODS	Method description	Semester Workload
	Lectures	39
	Class Work/Workshop	13
	Preparation of Group Projects	27
	Lab exercises	26
	Independent and Directed Learning	45
	TOTAL	150
ASSESSMENT METHODS	<p>I. Final Examination (60%) (Summative Evaluation) includes:</p> <ul style="list-style-type: none"> - Multiple choice questions - Short answer questions - Small software programmes <p>II. Group Project (30%) (Summative Evaluation):</p> <p><u>Evaluation Criteria:</u></p> <ul style="list-style-type: none"> • Functionality of application- 25% 	

	<ul style="list-style-type: none"> • Completeness of applications - 40% • Documentation - 20% • Usability of application- 15% <p>IV. Individual Oral Presentation (10%) (Formative Evaluation): Individual Oral Examination at the Laboratory.</p>
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5. RESOURCES

- *Recommended Book and Journal Article Resources:*

- Spyridakos A., (2009) Object Oriented Programming in Visual Basic.NET, Synchroni Ekdotiki Publishers (in Greek)
- Spyridakos A., (2010), Object Oriented Application in Visual Basic.NET environment, Synchroni Ekdotiki Publishers (in Greek)

-*Recommended Journals:*

- Journal of Object Oriented Programming, SIGS Publications