Course Title	**Programming Principles 2**				
Course Code	**CSC106**				
Course Type	**Compulsory**				
Level	BSc/1st Cycle				
Year / Semester	1st /2nd				
Teacher's Name	Angelina Vidali				
ECTS	7.5	**Lectures / week**	3 hours	**Laboratories / week**	2 hours
Course Purpose and Objectives	The aim of the course is for students to gain experience in the creation of object-oriented programming programs, through work and lectures.				
Learning Outcomes	Upon successful completion of the course, students will be able to: • Define objects with manufacturers and access methods • Design pro / base-classes and under/generated-class classes • Create abstract classes and interfaces • Create basic GUIs and handle events (as appropriate) • Apply operator overload (as appropriate) • Apply error checking techniques • Apply sequential and random access to files • Use font manipulation methods				
Prerequisites	CSC102	**Required**	-		
Course Content	Objects: Introduction to objects and object-oriented design, classes, manufacturers, manufacturers overload, access methods, class composition, constants and variables at class level, class scope, data removal, and encapsulation. Inheritance, polymorphism, encapsulation and abstraction: Ultra/Basic classes, sub-generated classes, inheritance, polymorphism, dynamic allocation of methods, abstract classes and methods, final methods and classes, interfaces. Files, overload (as appropriate) File methods and file classes, operator overload, tables, and classes. GUI (as appropriate): Introduction to GUI design, basic GUI application such as labels, text boxes, compound frames, buttons, selection buttons, check boxes.				

	Events (as appropriate): Event handling, internal classes, nested classes, handle of events, and event listeners. Exception handling: Error control and error handling techniques, error throwing and catching. Files: What is a file, streams, sequential and random access to files, storing objects in files, class files, functions / methods for accessing and exiting files.
Teaching Methodology	Lectures 42 hours Labs 30 hours
Bibliography	P.J.Deitel, H.Deitel. Java How to Program, Early Objects, 11th Edition, Pearson, 2017 Elliot B. Koffman and Ursula Wolz, PROBLEM SOLVING WITH JAVA, Addison Wesley
Assessment	Final Exam 60% Mid-Term/Lab Exam 20% Assignment 20%
Language	English