Course Syllabi

CODE   109

NAME   Advanced Programming I

Credits   6 ECTS

Period   Spring Semester

Course Specifications
Lectures where the theoretical concepts are described. Individual and laboratory work where the students put in practice these theoretical concepts using the Java programming language.

Objectives and contents
The course introduces students to object oriented design and programming using the Java programming language.

Contents
1. Introduction in Java to Object Oriented Programming Fundamentals: classes, objects, methods, messages, composition, variables, predefined types.
2. Inheritance and interfaces. Single and multiple inheritance, interface implementation, abstract classes, static and dynamic binding.
3. Exception management. Error handling with exceptions. Throwing exception, definition of tailored exception classes.
4. Basic predefined Java classes. System basic classes (java.lang), system utility classes (java.util), input/output in java (java.io).
5. Collections. Generic programming in Java. Predefined Java collections (lists, sets) and maps.

Assessment
Attending the lectures and the laboratory sessions, short questions to be answered during lectures, short programs to be developed during laboratory sessions, partial and final exams in the laboratory.

Lecturer
Dr. José Mª Álvarez Palomo
jmalvarez@uma.es
Room 3.2.6