

Computer programming

Semester 1 Syllabus

Part 1: Course Information

Instructor Information

Instructor: CLOPPET Florence

Office: CUSP - 8th floor

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Course Description

The course will cover the basic principles of Object Oriented Programming (OOP). The studied OOP language is the JAVA language, which is a well-known language that is useful for applet or plugin development. The course material will be covered in traditional lecture format as well as hands-on activities on computers.

Prerequisite

- No prerequisite.

Textbook & Course Materials

Recommended Texts & Other Readings

- **Learning Java**, [Patrick Niemeyer](#), [Daniel Leuck](#) **Editors** : O'Reilly Media, Inc, USA; **Édition** : 4th Revised edition (June 28th 2013)
- **Effective Java**, Joshua Bloch, **Editor** : Addison Wesley; **Édition** : 2 (May 8th 2008)
- **Programmer en Java**, Claude Delannoy, **Editeur** : Eyrolles; 3e édition (29 juin 2006), Collection BestOf

Course Requirements

- Access to Moodle website: <http://moodle.univ-paris5.fr/course/view.php?id=3702>
- Internet connection (DSL, LAN, or cable connection desirable)
- Integrated Development Environment Eclipse (available on <http://www.eclipse.org/downloads/packages/eclipse-standard-43/keplerr>)

Part 2: Course Objectives

The objective of this course is to give the student who has no skill in computer programming, the basic principles of object oriented programming. The studied object oriented language is the language JAVA

- Understand the basic principles of Object Oriented Programming
- Understand how to design classes, to create objects and manage them
- Understand the mechanisms of inheritance

You will meet the objectives listed above through a combination of the following activities in this course:

- Attend the lectures, and the practical sessions
- Doing some homework weekly, in interaction with the instructor

Part 3: Topic Outline

Important Note:

Activity and assignment details will be explained in detail within each week's corresponding learning module.

- **Week 01: Introduction**
 - Procedural/Object-Oriented Programming
 - OOP Concepts and principles
 - Java Programming Language - Introduction and basics (variables, operators, flow control statements)
- **Week 03: Java Programming Language**
 - Class
 - Object (creation, use, destruction, keyword this, attributes, methods)
- **Week 04: Java - Fundamental notions**
 - Encapsulation,
 - Object Assignment, Object comparison
 - Static variables, static methods
- **Week 05: Java - Some useful classes**
 - String, StringBuffer, StringTokenizer ...
- **Week 06: Java - Collection of Objects**
 - Arrays, Array List ...
- **Week 07: Packages**
 - the way to organize classes, create and use a package
- **Week 08: Inheritance**
 - why is it an interesting concept ?
 - basic keywords and concepts (overriding, visibility ...)

Part 4: Grading Policy

Grades in this course will be assigned as follows

Practical session exercises	30%
Exam	70%