

Faculty of Economic, Social and Political Sciences



ECGE1220 Management Computer Science and Information Systems

[45h+15h exercises] 5 credits

Teacher(s): Jean Vanderdonckt
Language: French
Level: First cycle

Aims

This module introduces students to the basic concepts of object-oriented programming languages which are illustrated with a programming language (classes, objects, variables, expressions, control structures, types of data, methods, etc). By the end of this course, students should be able to:

- write a program in JAVA.
- analyse a problem and find a programming solution.
- carry out a small computer project in JAVA

Main themes

The module has a number of other, more specific objectives:

- to introduce students to computer systems (material components, basic software) - the program life cycle.
 - to teach basic concepts of object-oriented programming languages, illustrated with JAVA (objects, variables, expressions, control structures, types of data, methods, etc).
 - systematic methods of constructing standard programs: problem modelling and specification - top-down reasoning and rudiments of UML.
 - application to systematic methods of constructing standard algorithms (research, accumulation, sorting, filters, substitution, etc).
 - programming a micro-application in JAVA (IT project).
- Thus, in practice, the module has three main components:
- theoretical content (through lectures);
 - practical work enabling students to gain programming experience;
 - a programming project to be completed over a period of one month.

Content and teaching methods

Contents of practical work:

Practical exercise sessions (or tutorials; two hours each week), related to the lectures, will be organised. This involves programming exercises in JAVA, mainly inspired by Lewis & Loftus's work.

There will also be four sessions during which students will work on a project to produce a Java program.

Details of this programming project will be posted during the week preceding the Easter break.

Organisation of practical work

The two-hour exercise sessions will be supervised by assistants. Students

will have to have read the relevant material to be able to solve them (see the requirements at the beginning of each chapter).

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

Evaluation: A written examination will take place during the exam session. Note that this examination will cover the solution of practical cases of JAVA programming (method and class writing). Students are not required to know JAVA syntax by heart; they will be able to refer to their JAVA manual (Lewis & Loftus) during the examination.

Evaluation of practical work

An evaluation will be organised at the end of the programming project (see table, programming project).

This project will be carried out in groups of two and will consist in writing a JAVA micro-application according to specific guidelines. It will therefore call on concepts already worked on during the preceding practical exercise sessions.

At the end of the project, students will have to present the micro-application to the teacher, who will ask questions about their work. This project presentation will count for 30% of the final mark.

Final Evaluation

The final evaluation will take account both of the project presentation (30%) and of the final written examination (70%).

Course materials : J. Lewis and W. Loftus (2004), Java Software Solutions, 3th edition, Addison-Wesley