

Software engineering



SCHOOL

Polytech Graduate School of Engineering



CAMPUS

Belle-Beille



LEVEL

Engineering 5th year



OPEN TO EXCHANGE STUDENTS

Yes



SEMESTER

Fall (S1)

- > **Degree course:** Graduate School of Engineering - Automation and Computer Engineering
- > **Teaching unit:** UE 9.3 Génie informatique
- > **Course language:** English
- > **Duration (hours):** 16
- > **ECTS:** 1
- > **Teacher(s):** Nicolas Delanoue

> Assessment:

- Continuous assessment
- Final exam

> Teaching methods:

- | | | |
|--|----------|-------------------------------------|
| <input type="checkbox"/> Lecture course | hours | <input type="checkbox"/> Case study |
| <input type="checkbox"/> Tutorial course | hours | <input type="checkbox"/> Project |
| <input checked="" type="checkbox"/> Practical work | 16 hours | |

COURSE DESCRIPTION

The first part concerns various criteria to be considered before starting programming a software (e.g. choice of the programming language, choice of third party packages, hardware constraints, data serialization). Basic good practices are also introduced, such as GRAPS (« General Responsibilities Assignment Software Patterns ») as well as pattern widely encountered in this domain (architectural patterns and design patterns). The second part concerns labs. Each exercise focuses on a specific issue encountered in software development and deals with the refactoring of an existing, uncorrectly designed, program, including modeling with UML and the integration of the appropriate design pattern.

OBJECTIVES

The purpose is to provide to students an introduction to best practices for the software design.

PREREQUISITES

Software engineering 1, Object oriented programming and Java