Computer Engineering (OO)

SCHOOL
Polytech Graduate School of Engineering

CAMPUS
Belle-Beille

LEVEL
Engineering 4th year

OPEN TO EXCHANGE STUDENTS
Yes

SEMESTER
Fall (S1)

> **Degree course:** Quality, Innovation and Reliability Engineering
> **Teaching unit:** UE 7-2 Science and technologies
> **Course language:** English
> **Duration (hours):** 16
> **ECTS:** 1
> **Teacher(s):** Alexis Todoskof

> **Assessment:**

- [x] Continuous assessment
- [ ] Final exam

> **Teaching methods:**

[x] Lecture course	4	hours	[ ] Case study
[ ] Tutorial course		hours	[ ] Project
[x] Practical work	12	hours	

COURSE DESCRİPTİON

Concept of object, message, class, inheritance, method, instance. Programming methodology with an object-oriented language. Object Modeling / UML: Modeling the development process (from needs expression to implementation), System Description (Components, Functionalities and Dynamic Behavior), Logical, Functional and Physical Models. Graphical representation - through case diagrams, sequences, components, states, objects and collaborations.

OBJECTİVES

This course explores the principles of object-oriented programming (encapsulation, inheritance, polymorphism ...) with emphasis on object-oriented design using UML modeling.
The aim of this teaching is twofold:
- on the one hand, to teach students how to break down a large-scale problem into functional elements ("objects"), in the formal framework of the Unified Modeling Language (UML).
- on the other hand, allow them to apply the concepts of object modeling through a programming language

PREREQUİSİTES

COO, POO, UML, classes, objects, messages, inheritance, class diagram

SELECTİVE BİBLİOGRAPHY

Grady Booch, James Rumbaugh, and Ivar Jacobson. Le guide de l'utilisateur UML. Eyrolles, 2003
- Franck Barbier, UML 2 et MDE, Ingénierie des modèles avec études de cas, 2009
- Pascal Roques. UML2 par la pratique (étude de cas et exercices corrigés). Eyrolles, 5 e édition, 2006