Collaborative Engineering

SCHOOL
Polytech Graduate School of Engineering

CAMPUS
Belle-Beille

LEVEL
Engineering 3rd year

OPEN TO EXCHANGE STUDENTS
Yes

SEMESTER
Spring (S2)

- **Degree course:** Quality, Innovation and Reliability Engineering
- **Teaching unit:** Industrial design
- **Course language:** English
- **Duration (hours):** 12
- **ECTS:** 1
- **Teacher(s):** Anthony Delamarre

Assessment:

- [x] Continuous assessment
- [ ] Final exam

Teaching methods:

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

COURSE DESCRİPTİON

The sequence is divided into three sessions of four hours to design an automatic coffee machine per percolation. The input of the system is the coffee beans and the output must be an espresso. One group works on the Water subsystem and the other on the coffee subsystem, both groups must provide the plans for the complete machine.
The project is carried out as follows:

First session (4 hours)
_Work group water system:
- Functional analysis system water tank and coffee bean and grain mill
- Specifications and preparation of the exchange of specifications between group A and group B
- Development of Ideas
_ Work group coffee bean
- Functional analysis system manufacturing and removal of ground coffee pellets
- Specifications and preparation of the exchange of specifications between group A and group B
- Development of Ideas

Second session (4 hours)
- Development of ideas sheets
- Objective: to obtain a CAD of the subsystem to be designed Third session (4 hours)
- Integration of solutions and design of a common housing
- Feedback on design and collaboration is requested.

OBJECTİVES

Students will know how to:
- implement a team project of more than six people in a limited time
- manage the project organization to make the deliverables on time
- manage internal and external communication in synchronous and asynchronous mode

PREREQUİSİTES

Introduction to Quality and Innovation, Mechanical engineering

SELECTİVE BİBLİOGRAPHY

Conception collaborative des systèmes et composants mécaniques, Pierre DEVALAN, Jean-Charles DELPLACE , technique de l'ingénieur, 2010
L'ingénierie concourante- Un nouveau professionnalisme, Christophe GOBIN, Technique de l'ingénieur, 2015
Modélisation des processus d'innovation en PME, Hervé Christofol, Patrick Corsi, Pascal Crubleau, Anthony Delamarre, Henri Samier, archive ouverte de l'université d'angers, 2016
La conception industrielle de produits,Volume 3 ingénierie de l'évaluation et de la décision, Paris : Hermes science : Lavoisier, impr. 2008