

Process optimization



SCHOOL

Polytech Graduate School of
Engineering



CAMPUS

Belle-Beille



LEVEL

Engineering 3rd year



OPEN TO EXCHANGE STUDENTS

Yes



SEMESTER

Spring (S2)

- > **Degree course:** Building and Safety
- > **Teaching unit:** Fundamentals in engineering
- > **Course language:** English
- > **Duration (hours):** 16
- > **ECTS:** 2
- > **Teacher(s):** Mihaela BARREAU and Xavier SIDAMBAROMPOULE

> Assessment:

- Continuous assessment
- Final exam

> Teaching methods:

- | | | | |
|---|------|-------|-------------------------------------|
| <input checked="" type="checkbox"/> Lecture course | 6.67 | hours | <input type="checkbox"/> Case study |
| <input checked="" type="checkbox"/> Tutorial course | 9.33 | hours | <input type="checkbox"/> Project |
| <input type="checkbox"/> Practical work | | hours | |

COURSE DESCRIPTION

- Bases of industrial process optimization
- Experiment principles
- Analysis of variance
- Two-level factorial experiments
- Taguchi experiments (design and interpretation)

OBJECTIVES

Learn how to design and conduct experiments efficiently, and analyze the resulting data to obtain objective conclusion. Students will be able to handle the main kinds of design of experiments and conduct statistical analysis

PREREQUISITES

Statistics, Linear algebra

SELECTIVE BIBLIOGRAPHY

- La méthode des plans d'expériences, J. Goupy, Dunod, 1988.
- Conception de la qualité: les plans d'expériences, R.H. Lochner, J.E. Matar, AFNOR, 1992
- Pratique industrielle de la méthode Taguchi, J. Alexis, AFNOR, 1995
- Les plans d'expériences, G. Sado, MC. Sado, AFNOR, 1991
- Design and analysis of experiments, D. C. Montgomery, Wiley, 2001
- Design and analysis of experiments, A. Dean, D. Voss, Springer, 1999