

## Analytical control: Rheology and Mass Spectrometry



### SCHOOL

Polytech Graduate School of Engineering



### CAMPUS

Santé - Health Campus



### LEVEL

3rd year Bachelor's degree



### OPEN TO EXCHANGE STUDENTS

Yes



### SEMESTER

Fall (S1)

> **Degree course:** Biology and Health System at Bachelor's degree level

> **Teaching unit:** Analytical control: Rheology and Mass Spectrometry

> **Course language:** English

> **Duration (hours):** 20

> **ECTS:** 3

> **Teacher(s):** must be requested

#### > **Assessment:**

Continuous assessment

Final exam

#### > **Teaching methods:**

Lecture course      hours

Tutorial course      hours

Practical work      hours

Case study

Project

## COURSE DESCRIPTION

This course will introduce students to the following subjects:

#### **Mass spectrometry:**

- ionization methods,
- ion separation methods,
- detection methods,
- determination of raw formulas,
- coupled techniques.

#### **Rheology:**

- general aspects of the basics of rheology (laminar shear motion, shear stress, strain and shear rate, equation of state and rheograms, viscosities, laminar regime limit and Reynolds number);
- introduction to linear viscoelasticity (elementary models);
- flow behaviour (Newtonian and non-Newtonian liquids, permanent flow deformations in solids, influence of time);
- description of the main rheometers (steady state and transient).

## OBJECTIVES

This training course will allow students to acquire basic knowledge in the field of rheological controls and will provide an indispensable complement in the field of mass spectrometry. The objective of this course is to train future managers in the control of health, food and cosmetic products.

## PREREQUISITES

Chemistry, biology and physics.