

UE Micro-nano fabrication techniques



Level
Baccalaureate
+5



ECTS
3 credits



Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)



Semester
Automne

- > **Teaching language(s):** French
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** PAX9NSAG

Presentation

Description

This course will be focused on the main nanofabrication and characterization techniques used in clean-rooms in research laboratory and semi-industrial environments for the fabrication of current and future semiconductor devices. It will combine regular lectures and a practical training on nanobiotechnology in clean room facilities.

Outline

This course will include a first part covering the main nanofabrication and characterization techniques used in clean-rooms and a second part dedicated to a practical training.

- The first part will be taught as regular lectures. The principles of these techniques will be presented and illustrated through concrete examples obtained in the clean-rooms of the Minatech Campus in Grenoble. This course will provide you with the basics of technological steps, thin film deposition techniques, lithography processes, and advanced characterization used during the fabrication of single devices up to their large-scale integration.
- The practical training (second part) will consist in the construction of a micro-patterned device using state-of-the art microfabrication techniques. Fluorescently marked cells will be deposited on the constructed micropatterns and different cell.

Course parts

CMTD	Lectures (CM) & Teaching Unit (UE)	20h
UE Micro-nano fabrication - TP	Practical work (TP)	12h

Period : Semester 9

Useful info

Place

› Grenoble

Campus

› Grenoble - University campus