UE Nanosciences II

Niveau d'étude
Bac +4

ECTS
3 crédits

Composante
UFR Physique, Ingénierie, Terre, Environnement, Mécanique (PhITEM)

Période de l'année
Printemps (janv. à avril/mai)

Diplômes intégrant cet élément

- Master Nanosciences et nanotechnologies

Langue(s) d'enseignement: Anglais

Ouvert aux étudiants en échange: Oui

Code d'export Apogée: PAX8NFAA

Présentation

Description

The Nanosciences course offers high level experimental training and labwork performed in the nano-facilities and technology centers of UGA: CIME-Nanotech, CUBE, Chemistry platform.

This course addresses the pluridisciplinar aspect of nanosciences and in nanotechnologies. The goal is to train students at the interface between the different sciences: chemistry and physics (Part I), physics and biology (Part II), and show the importance of a collaborative approach to the production and the characterization of nanoscale objects. Courses are in support for understand the great principles of the bottom-up approach in nanochemistry, the physical principle of different methods of characterization in nanosciences (AFM, SEM, TEM) and the elementary principles in biophysics. The pedagogical team is composed of teachers working in the field of nanochemistry, nanophysics and biophysics. The different practical work taking place on various practical teachings platforms located in Grenoble allowing the use of characterizations equipment at the forefront of nanoscience research.

Nano-biophysics

Informations non contractuelles.
Dernière mise à jour le 30 juin 2026

This course is devoted to the Morphological and the Mechanical studies of biological cells fixed on a micro-functionalized pattern, by Atomic Force and Fluorescence Microscopies techniques. It consists of 14h of lectures addressing biochemical and physical concepts at the nanoscale, and 12h of labwork taking place at the CUBE and CIME-Nanotech.

Objectifs

- To address multidisciplinary approaches in nanosciences through a set of practical work.
- To train on high-tech platforms in nanosciences and in nanotechnology.
- To understand chemical methods of nanomaterials synthesis by a bottom-up approach.
- To learn the biophysical principles of the interface between nanomaterials and animal cells.

Heures d'enseignement

CM	CM	15h
TP	TP	11h

Période : Semestre 8

Infos pratiques

Lieu(x) ville

Grenoble

Campus

Grenoble - Domaine universitaire

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