UE Thin films

Level
Baccalaureate +4

ECTS
3 credits

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

Semester
Printemps

- **Teaching language(s):** English
- **Open to exchange students:** Yes
- **Code d'export Apogée:** PAX8NCAB

Presentation

Description

The study of thin-film materials is the basis of several research projects and sectors of activity. Indeed, the thin film state covers activities ranging from optics for the development of waveguides or anti-reflection layers, to microelectronics for the production of semiconductor layers or for the production of energy in fuel cell devices. This course will present an overview of the thin film states and its specificities trough 3 chapters:
• What could we call a thin film? What implies this specific state?
• Brief presentation of the physical techniques (PVD, PLD, evaporation…) and more specific description of the chemical routes (ALD, CVD and Sol-Gel chemistry)
• General tools of morphology characterization will be presented first. Special care will be given to the specific tools for structural determination (Grazing incidence XRD, texture measurments and Transmission Electron Microscopy).

Course parts

UE Thin films - CM	Lectures (CM)	15h
UE Thin films - TD	Tutorials (TD)	6h
UE Thin films - TP	Practical work (TP)	4h

Period : Semester 8

Non-contractual information.
Last update on 14 December 2023

Useful info

Campus

- Grenoble - University campus
- Grenoble - Saint-Martin d'Hères

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