

UE Thin films



Niveau d'étude
Bac +4



ECTS
3 crédits



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



Période de
l'année
Toute l'année

- > **Langue(s) d'enseignement:** Anglais
- > **Ouvert aux étudiants en échange:** Oui
- > **Code d'export Apogée:** PAX8NCAB

Présentation

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 through 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 measurements and Transmission Electron Microscopy).

Heures d'enseignement

UE Thin films - CM-TD	Cours magistral - Travaux dirigés	21h
UE Thin films - TP	TP	4h

Période : Semestre 8

Infos pratiques

Lieu(x) ville

› Grenoble

Campus

› Grenoble - Domaine universitaire