

UE Surfaces and interfaces



Niveau d'étude
Bac +4



ECTS
3 crédits



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



Période de
l'année
Automne (sept.
à dec./janv.)

- > Langue(s) d'enseignement: Anglais
- > Ouvert aux étudiants en échange: Oui
- > Code d'export Apogée: PAX7NAAA

Présentation

Description

Goal: As the size of systems decreases, surface effects become more important. The nano- scale is also the scale at which surface effects dominate over bulk effects. This course introduces the main notions to address the specific properties and the organization of matter at surfaces from a physical, chemical and biological point of view.

Content:

- notions on molecular and surface interactions. The hydrophobic effect
- thermodynamics of surfaces ; surface tension
- capillarity, wetting, contact angle
- surfactants, micelles, self-assemblies and lyotropic phases
- Gibbs monolayers, Langmuir-Blodgett films
- introduction to biologic membranes

Heures d'enseignement

UE Surfaces and interfaces - CM	CM	14h
UE Surfaces and interfaces - TD	TD	10h

Pré-requis recommandés

Thermodynamics.

Période : Semestre 7

Infos pratiques

Lieu(x) ville

› Grenoble

Campus

› Grenoble - Domaine universitaire