

# 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 adress 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

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## Pré-requis recommandés

Thermodynamics.

**Période** : Semestre 7

## Infos pratiques

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### Lieu(x) ville

› Grenoble

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### Campus

› Grenoble - Domaine universitaire