# UE Nano-safety

Niveau d'étude
Bac +5

ECTS
3 crédits

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

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

## Diplômes intégrant cet élément

- Master Nanosciences et nanotechnologies

**Langue(s) d'enseignement:** Anglais

**Ouvert aux étudiants en échange:** Oui

**Code d'export Apogée:** PAX9NCAG

# Présentation

## Description

Nanotechnologies give access to new and interesting properties of materials. Applications or potential applications of nanomaterials are today very numerous in research, industrial processes but also everyday life. As a consequence, impact on health and safety of those new substances becomes important. Indeed, assessment on life cycle analysis is a key element of development. This course presents the current knowledge and research regarding the potential risks associated to the development of nanotechnologies, organized around 3 axes:

- Toxicology and ecotoxicology current knowledge, thanks to presentation of latest scientific studies on the subject,
- occupationnal potential risks : how to manage an emerging risk ? what's mandatory ? what kind of metrology can we use ? what are the best practices in order to prevent impact on health and environment ?
- social perception of nanotechnologies over the world and over different cultures.



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

## Heures d'enseignement

| | | |
|---|---|---|
| CM | CM | 19,5h |
| TP | TP | 4h |

## Contrôle des connaissances

Examen terminal avec documents

## Syllabus

Content:

1. Presentation of definitions and applications of nano-objects
International definitions in place, current environement, examples of emissions in different economic activities, field of applications (environment, energy, communication, health, everyday life, …)
2. Nanotoxicology and ecotoxicology
What’s known , what’s going on ? what are the barriers of knowledge ?
Key elements for a critical and objective reading of scientific edited publications.
3. Metrology :
Behavior of nano-objects in the air
Technologies and devices for nano-metrology, possibilities and limits
Use of devices during a practical session
4. Regulations or recommandations available
5. Preventing measures: best practices available, as currently deployed in different organisms or industries

**Période :** Semestre 9

# Infos pratiques

## Lieu(x) ville

Grenoble

## Campus

Grenoble - Domaine universitaire


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