

# UE Cell Biology 2 - BIO331 -

 ECTS  
6 crédits

 Composante  
Département  
de la licence  
sciences et  
technologies  
(DLST)

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

- > **Langue(s) d'enseignement:** Anglais
- > **Ouvert aux étudiants en échange:** Non
- > **Code d'export Apogée:** YAX3BI91

## Présentation

### Description

This course aims at the acquisition of a good knowledge of the functioning of eukaryotic and prokaryotic cells, which deals with all the major cellular functions (replication, transcription, translation, cytoskeleton, cell cycle, cell-environment interaction) and the experimental methods which allow their analysis.

The work of acquiring this knowledge in the TD session is carried out by interactive pedagogical methods (preparatory work, island work, oral presentation) in the form of actions that the students must carry out throughout the semester: oral retransmission of knowledge, application exercise, elaboration of MCQs, analysis of scientific figures, elaboration of a pedagogical creativity project.

In practical work, the student will have a first introduction to the experimental approaches of differential centrifugation, cell culture and luminescent immunolabelling.

### Heures d'enseignement

UE Cell Biology 2 - CM	CM	30h
UE Cell Biology 2 - TD	TD	15h
UE Cell Biology 2 - TP	TP	14h

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## Pré-requis recommandés

Knowledge of the biomolecular constituents of the cell (BIO131), basics of cell biology (BIO231)

**Période** : Semestre 3

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## Compétences visées

*Knowledge:*

- Acquire the fundamental knowledge of cell biology and know how to use the vocabulary specific to cell biology
- Be aware of the hygiene and safety conditions necessary for biological experiments
- To know the good practices of manipulation in cell culture

*Skills:*

- Know how to use the experimental equipment (phase contrast photonic microscope, spectrophotometer, pipettes, bulbs, small centrifuge, vortex, hood)
  - Know how to remove adherent cells from their support
  - Know how to make an observation drawing and an electronography analysis
  - Know how to draw a graph from experimental measurements
  - Know how to make dilutions in cascade
  - Master the techniques of cell fractionation (preparation of a concentration gradient, centrifugation, homogenisation)
  - Understand and apply the concepts of labelling with antibodies directed against proteins immobilised on nitrocellulose membranes
  - Be able to present, describe, interpret, argue and conclude on experimental results using appropriate scientific vocabulary and with correct and rigorous written and oral expression
  - Use creativity to develop tools for revising the concepts of cell biology seen in class
  - Work in groups and in pairs (develop communication, diplomacy and listening skills, accountability)
  - Anticipate the sessions of TD and TP and know how to organise their work
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## Bibliographie

The cell (Cooper)

Biology (Campbell)

Biologie moléculaire de la cellule (Darnell)

## Infos pratiques

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## Contacts

Responsable pédagogique

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## Lieu(x) ville

> Grenoble

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## Campus

> Grenoble - Domaine universitaire