

Biological reactor engineering



ECTS
2 crédits



Hourly volume
33h

Introducing

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- the different types of biological catalysts and their working modes
- the stoichiometry, kinetic laws and their combination for the description of microbial cell behaviour for growth and production,
- the description and modelling of batch, fed-batch and continuous, single or multi stage biological reactors with or without recycling.

The student will be able to:

- identify the general metabolic scheme of microbial growth
- establish the stoichiometric equations and kinetic laws for biological reactions with respect to the environment conditions
- establish an intrinsic kinetic law
- integrate and prioritize the mechanisms in order to model homogenous and heterogeneous biological reactors

Practical info

Location(s)

 Toulouse

Necessary prerequisites

Microbiology and mass balances