

Basis of chemical reaction engineering



ECTS
3 crédits



Hourly volume
38h

Introducing

Objectives

Objectives:

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

- Mass balances applied to reactors
- Reaction progress parameters
- Kinetic law of a reaction, kinetic order and constant, activation energy
- Continuous and batch stirred reactors
- Continuous plug flow reactors

The student will be able to:

- define a system, its boundaries, for a defined purpose; calculate all the molar fluxes (inlet, outlet, transformation, variation);
- write mass balances by using reaction progress parameters
- determine kinetic law for a homogeneous reaction from experimental data
- determine a kinetic constant for a temperature (Arrhenius law)
- choose the best ideal reactor for a homogeneous isothermal chemical reaction and calculate it (reactor design)
- treat a general homogeneous isothermal problem of chemical reaction engineering

Necessary knowledge:

Have a good understanding of the concept of concentration. Integration. Linearity and linear regression

Practical info

Location(s)

Toulouse

Necessary prerequisites