ChE-451

Process development I

Zaza Philippe

Cursus	Sem.	Type
Biotechnology minor	H	Opt.
Energy Management and Sustainability	MA1, MA3	Opt.
Energy minor	H	Opt.
Ing.-chim.	MA1, MA3	Obl.

Language of teaching	English
Credits	2
Session	Winter
Semester	Fall
Exam	Written
Workload	60h
Weeks	14
Hours	**2 weekly**
Courses	2 weekly
Number of positions	

Summary

Familiarize the students with integrated process development and industrial technologies.

Content

Process analysis and description

- Development strategies
- Mass and energy balances
- Industrial equipments
- Installation concepts
- Technical limitations
- Sizing of industrial equipments
- Energy use
- Introduction to steam process
- Design of technical equipment
- Economical estimations (total product & investment costs)

Optimization

- Influence of process modifications
- Risk analysis introduction
- Optimum choice
- Development program definition
- Use of process simulation software
- Scale down and scale up

Resources

Ressources en bibliothèque

- Ajouter au Panier Systematic methods of chemical process design / Biegler
- Scale-up in chemical engineering / Zlorkarnik
- Ullmann's Encyclopedia of Industrial Chemistry
- Process development / Vogel

Websites

- http://scgc.epfl.ch/telechargement_cours_chimie.htm