

# Design and environmental assessment of processes

 **ECTS**  
9 credits **Component**  
INSTITUT  
NATIONAL  
DES SCIENCES  
APPLIQUEES  
TOULOUSE **Number of  
hours**  
47h

## Presentation

### Description

Programme (detailed contents):

Safe, clean and sober processes. Green chemistry and processes. Technologies associated with green processes. Scientific English. Project design: design and assessment of a plant.

Organisation:

The training will begin with lectures on green chemistry and green processes that students will have to take into account in the design project proposed afterwards. By groups of 3-4, they will develop a project from a general proposition of the teacher. They will have to: Establish a precise specification and design a full installation ; Assess the process in terms of its environmental impact, and estimate its cost.

For this, they will use their scientific knowledge but also the scientific and technical documentation in English and French. Periodical meetings with English teachers concerning their project will enable them to learn the specificities of scientific English.

## Objectives

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

- the concepts of clean, sober, safe processes, the principles of green chemistry and green processes and the associated technology choices
- particularities of scientific English

The student will be able to:

- establish a specification for a given process from a general request
- design the process, taking into account its environmental and economic aspects
- conduct an environmental assessment of the studied process
- write a scientifically supported report to explain the choices and calculations in the process design
- present the process from different points of view: scientific, environmental and economic aspects

- use the chemical engineering scientific literature in English
- make a scientific oral presentation in English about the process

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## Pre-requisites

All the Chemical Engineering training

## Useful info

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### Place

➤ Toulouse