

# Biological and Food Engineering



Biological engineering  
Food engineering  
Environment  
Quality  
Sustainable development

## OBJECTIVES

The program in Biological and Food Engineering trains multiskilled engineers who work in different sectors of activity: food processing, biotechnology, the environment, cosmetics, personal hygiene products and retail. Using a combination of scientific and technical knowledge, as well as managerial competences, engineers from this program can call upon human, material and financial resources in order to meet the complex and exciting challenges specific to businesses in these different sectors.

## PROGRAM

The program is designed around the following areas:

- > products classified according to their chemical composition and various properties - physico-chemical, health, nutritional, sensory...
- > processes and bio-processes used to obtain these products or to recover and enhance agri-resources and waste
- > the tools necessary to control and optimize these processes, as well as the quality of the products,
- > essential areas of the humanities and management which participate in the development strategy of a given company
- > practical work experience (placements, projects) which allow the student engineer to assimilate the knowledge imparted and develop, in a team environment, his/her capacities in defining, organizing and realizing tasks .

The personalized path offered in the final year allows the student engineer to adapt the training offered to his/her career plan. Constant links with industry exist and manifest themselves through work placements, projects, visits to different companies, as well as the participation of industrialists in the program.

## MAIN PROFESSIONS OPEN TO NEW GRADUATES

- > Product development engineer: improves the quality of current products or creates new products, from the molecule level to the finished product.
- > Production Engineer: organizes and supervises the different steps in the transformation of agri-resources.
- > HSQE Engineer: defines and implements the HSQE policy of the company.
- > Product manager: defines and implements the marketing plan. Participates in the elaboration of a growth strategy and the development of the company.

For all of these positions, taking into account issues related to sustainable development is a priority.

## LINKS WITH RESEARCH

Numerous laboratories at Lille 1 University, associated with the CNRS or the INRA (national research bodies), can accommodate GB-IAAL student engineers for work placements:

- > Laboratoire de Génétique et Évolution des Populations Végétales (GEPV),
- > Laboratoire de Chimie Moléculaire et Formulation (CMF),
- > Laboratoire de Procédés Biologiques, Génie Enzymatique et Microbien (ProBioGem)
- > Laboratoire Stress Abiotique et Différentiation des végétaux cultivés (SADV),
- > Laboratoire Unité de Glycobiologie Structurale et Fonctionnelle (UGSF).

## SECTORS OF ACTIVITY AND COMPANIES

- Food processing:	60 %
- Design offices:	17 %
- Chemical / healthcare industry:	12 %
- Retail:	6 %
- Other sectors:	5 %

Initial area of employment - Biological and food engineering:

- Research and Development:	19 %
- Production / Exploitation:	27 %
- Quality / Security / Environment:	30 %
- Sales / Brand director:	10 %
- Other professions:	14 %

Companies in which graduates work:

AUCHAN, BONDUELLE, COCA COLA, DANONE, GLAXOSMITHKLINE BIOLOGICALS, HEINEKEN, LABORATOIRE JUVA SANTÉ, LECLERC, MASTERFOODS, MAC CAIN, NESTLÉ, QUICK FRANCE, TETRA PAK ...  
and many small and medium enterprises.