

IDENTIFICATION

Course code : E5AG9A31
ECTS : 5

DURATION

Lectures : 20
Tutorial classes : 18
Labs : 14
Total : 52

Project :
Personnal work :

ASSESSMENT

- Individual assessment - Oral presentation and/or group deliverables

TEACHING MATERIALS

See tutor guide and student guide, IDEONIS and HILL developed tools

LANGUAGE

English

CONTACT

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UE : UE

COURSE : Improving ultra-processed foods

SCOPE OF THE COURSE

OBJECTIVES

Project 6 is dedicated to assessing, performing, and improving ultra-processed foods. The aspects of formulation in relation to health and environmental consequences, as well as processes, will be considered.

COMPETENCE AND SKILLS

- Know how to perform a functional analysis of a food product and select ingredients/additives/processes in response;
- Be able to use environmental impact assessment tools in the development of a product/process to control or reduce them to an acceptable level;
- Be able to size a new agro-food processing unit/line extension/industrial plant, or improve an existing one while integrating technical constraints and regulatory aspects;
- Know how to qualify and assess the degree of product/process innovation.

PROGRAM

Over the courses, students will have to perform : - Analyze the state of the art from both general and specific perspectives of the subject; - Reformulate food products/modify manufacturing diagrams considering health and environmental aspects; - Evaluate possible alternatives for resizing an existing production line (equipment, staff, flow); - Assess the feasibility of the project from technical and financial perspectives.

For this project, students will attend courses/conferences on : - Ultra-processed products and ingredients; - Eco-design and environmental impact of food products; - Visits to production sites; - Sizing of production units.

Students will benefit from practical work in the agro-food technology, culinary, and physical-chemistry labs.

BIBLIOGRAPHY

REQUIREMENTS

Knowledge of food formulation, nutrition, food process engineering/technologies and unit operations, experimental design, analytical and sensory characterization, eco-design methodologies, project management, and statistics.