

IDENTIFICATION

Course code : E3AG6QH5
ECTS : 1.5

DURATION

Lectures : 4
Tutorial classes : 12
Labs : 6
Total : 22

Project :
Personnal work :

ASSESSMENT

Individual assessment Group report sub-
mission for lab work.

TEACHING MATERIALS

Course materials (PPT) provided.

LANGUAGE

English

CONTACT

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UE : UE6-QHSE

COURSE : Evolution and modification of foods

SCOPE OF THE COURSE

OBJECTIVES

Master the steps and parameters of enzymatic and non-enzymatic degradation of foods, to control biochemical modifications in food engineering and improve the sensory and nutritional properties of products.

COMPETENCE AND SKILLS

Understand the different stages of food degradation (enzymatic, non-enzymatic, chemical...), understand the consequences of technological treatments on foods.

PROGRAM

Elements of reactivity ; Chemical and enzymatic treatments of foods ; Biochemical consequences of technological treatments on foods : Lipid oxidation ; Enzymatic browning Non-enzymatic browning ; Protein alterations (presentation of mechanisms, factors influencing reactions, consequences in food technology) ; Demonstration of these phenomena on products from major food sectors - Analytical methods for assessing reactions ; - Prevention strategies - Prediction of chemical and enzymatic alterations based on the water activity of a food.

BIBLIOGRAPHY

Oxidation reactions Available online : <https://www.techniques-ingenieur.fr/base-documentaire/procedes-chimie-bio-agro-th2/procedes-biochimiques-et-chimiques-en-agroalimentaire-42431210/modifications-biochimiques-des-constituants-aliments-f3400/reactions-d-oxydation-f3400niv10003.html>

REQUIREMENTS

Structure and properties of macronutrients (proteins, carbohydrates, lipids), food additives, and processing aids.