

IDENTIFICATION

Course code : ESI-SPI-CI-AG4-S8-UE2-EC6
ECTS : 2.5

DURATION

Lectures : 4
Tutorial classes : 15
Labs : 10
Total : 29

Project :
Personnal work :

ASSESSMENT

Continuous assessments, oral presentation, 1 lab report; - Number of assessments : 3; 2 hours; Final grade = 1/2 CA + 1/4 oral + 1/4 lab work

TEACHING MATERIALS

LANGUAGE

English

CONTACT

Axelle MALATERRE SEPTEMBRE axelle Septembre Malaterre
axelle.malaterre-septembre@univ-reunion.fr

Modifié le : 14 juillet 2026

UE : UE8-R

COURSE : Applied enzymology

SCOPE OF THE COURSE

OBJECTIVES

This module aims to provide theoretical and experimental knowledge of enzymatic catalysis and kinetics in both fundamental and applied contexts within the agrofood industry.

COMPETENCE AND SKILLS

- Ability to optimize enzyme production
- Ability to purify an enzyme, characterize it, and assess the success of the purification process
- Knowledge of the main agrofood applications of enzymatic preparations
- Understanding of risk assessment associated with applications for market authorization of enzymes
- Knowledge of enzymatic reactors

PROGRAM

1- Main enzymes of interest in the agrofood industry and their applications 2- Production of enzymes via recombinant pathways 3- Enzymatic preparations and purified enzymes 4- Implementation of enzymatic preparations 5- Enzymatic reactors with free and immobilized enzymes 6- Case study in APP and lab work : Purification and characterization of an enzyme expressed via microbial pathway using a genetically modified microorganism

BIBLIOGRAPHY

REQUIREMENTS

Basic knowledge in biochemistry, general enzymology, microbiology, molecular biology, DNA, toxicology, unit operations, processes and preservation, additional physics, system regulation, process engineering, reactors and bioreactors, automation, food biotechnology.