ESIROI
ÉCOLE D'INGÉNIEURS
UNIVERSITÉ DE LA RÉUNION

DEPARTMENT : *CPI*
SEMESTER : *S4*

IDENTIFICATION

Course code : E2CP4A5
ECTS : 3.5

DURATION

Lectures :	0
Tutorial classes :	16
Labs :	28
Total :	44

Project :
Personnal work :

ASSESSMENT

2 Written exams (2h/2h) + 2 oral presentations

TEACHING MATERIALS

LANGUAGE

English

CONTACT

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UE : AGROALIMENTAIRE

COURSE : Application Project

SCOPE OF THE COURSE

OBJECTIVES

— Preparation of the project integrating microbiology, molecular biology, biochemistry and enzymology.
— Experimental implementation and data collection.
— Interpretation of results and formulation of perspectives.

COMPETENCE AND SKILLS

— Conduct a situation analysis : gather, exploit, analyze and process information, then prioritize it.
— Structure reasoning by mobilizing relevant knowledge and mastering causal relationships ; build an argumentation.
— Explore perspectives, provide a critical outlook and develop independent thinking.

PROGRAM

— The PadC protein from *Bacillus subtilis* :
  — Bacterial cloning.
  — Bacterial transformation.
  — Recombinant expression.
  — Extraction.
  — Enzyme purification.
  — Enzyme characterization.

BIBLIOGRAPHY

REQUIREMENTS

— Basic knowledge in microbiology (culture, types of microorganisms).
— Fundamental concepts in molecular biology (DNA, genes, expression).
— Basics in protein biochemistry (structure, enzymatic activity).
— Ability to work under sterile conditions and comply with laboratory safety rules.