ESIROI
ÉCOLE D'INGÉNIEURS
UNIVERSITÉ DE LA RÉUNION

DEPARTMENT : *AA*
SEMESTER : *S6*

IDENTIFICATION

Course code : E3AG6QH1
ECTS : 0.5

DURATION

Lectures :	4
Tutorial classes :	10
Labs :	0
Total :	14

Project :
Personnal work :

ASSESSMENT

Final assessment, report grade

TEACHING MATERIALS

Course and practical work materials provided

LANGUAGE

English

CONTACT

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Modifié le : 14 juillet 2026

UE : UE6-QHSE

COURSE : TES 2 : Life Cycle Assessment

SCOPE OF THE COURSE

OBJECTIVES

— Understand the principles of LCA
— Understand how environmental impacts are measured
— Conduct and interpret an LCA

Objectives : The engineering student is able to consider environmental and sustainable development challenges. They understand the principles of Life Cycle Assessment (LCA), its contributions and limitations as a tool in the role of an engineer in the agri-food production sector. The engineering student is able to : - Read and analyze an LCA, - Conduct a simplified LCA, - Analyze and present results, - Use LCA within an eco-design approach.

COMPETENCE AND SKILLS

Analyze and reduce the environmental impact at the scale of a product and a company

PROGRAM

1. Principles and definition of LCA
2. Interest and relevance of LCA (multicriteria, cross-cutting)
3. LCA method (definition of the study scope, presentation of the steps)
4. LCA modeling (software, analysis characteristics)
5. Impact assessment (GHG, water footprint, acidification, sensitivity analysis)
6. Scenario analysis and uncertainty management
7. Scenario creation and comparative analysis within an eco-design project framework.
8. Practical work » Building a model and analyzing results Learning outcomes : The engineering student is able to perform an LCA applied to a product or packaging using software. They understand the value of LCA as a cross-cutting and multicriteria approach.

BIBLIOGRAPHY

IDEONIS - Moodle Ecotrophelia Techniques de l'Ingénieur

REQUIREMENTS

Knowledge of sustainable development issues and eco-design solutions in the agri-food sector