

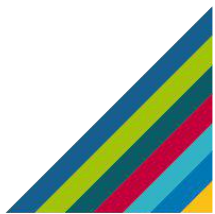


STUDY GUIDE

ENVIRONMENTAL FOOTPRINT AND ECO-DESIGN

Organised by

Université Polytechnique Hauts-de-France





1. IDENTIFYING DATA.	
• Course Name.	<i>Environmental footprint and eco-design</i>
• Coordinating University.	<i>Université Polytechnique Hauts-de-France</i>
• Partner Universities Involved.	<i>None</i>
• Course Field(s).	<i>The course "Environmental footprint and eco-design" typically falls under the domain of sustainability engineering, focusing on methods to measure and mitigate environmental impacts of products and services through eco-conscious design practices</i>
• Related Study Programme.	<i>This teaching is cross-cutting</i>
• ISCED Code.	<i>0521 - Environmental sciences</i> <i>0528 - Environment, inter-disciplinary programmes</i> <i>0719 - Engineering and engineering trades, not elsewhere classified</i>
• SDG.	<i>The course "Environmental footprint and eco-design" primarily relates to the following Sustainable Development Goals (SDGs):</i> <i>SDG 12: Responsible consumption and production - by promoting environmentally friendly design and production practices to reduce the ecological impact of goods and services.</i> <i>SDG 13: Climate action - by contributing to the reduction of greenhouse gas emissions and climate change mitigation through sustainable design choices.</i> <i>SDG 14: Life below water - by fostering design practices that preserve the health of marine and coastal ecosystems.</i> <i>SDG 15: Life on land - by promoting biodiversity-friendly designs and the preservation of terrestrial ecosystems.</i> <i>SDG 9: Industry, innovation, and infrastructure - by encouraging innovation in product and process design for a more sustainable and resilient economy.</i>
• Study Level.	<i>This teaching is cross-cutting, for all levels</i>
• Number of ECTS credits allocated.	<i>4 ECTS</i>
• Mode of Delivery.	<i>Online self-study</i>
• Language of Instruction.	<i>This course is taught in English but can be delivered in French,</i>



	<i>depending on demand</i>
• Course Dates.	Offered in semester 1 from 7/10/2024 to 15/12/2024 and semester 2 of the academic year from 10/02/2025 to 11/05/2024
• Schedule of the course.	<i>The course is asynchronous; there are no synchronous classes</i>
• Key Words.	<i>Eco-design Lifecycleastessment (LCA) Sustainability Environmentalfootprint Sustainable design Ecological impact Resource management Waste reduction Energy efficiency Environmental innovation</i>
• Catchy Phrase.	

• Prerequisites and co-requisites.	<i>There are no inter-course prerequisites. There is an organization to follow in the course. Required levels of study can be B, M, and D. The student must speak English or possibly French</i>
• Number of EUNICE students that can attend the Course.	40
• Course inscription procedure(s).	<i>Registration procedures do not differ from the standard EUNICE procedure.</i>

2. CONTACT DETAILS.

• Department.	UPHF
• Name of Lecturer.	Vincent BONIN & Loïc LEZZANI
• E-mail.	Vincent.bonin@uphf.fr Loic.lezzani@uphf.fr
• Other Lecturers.	None

3. COURSE CONTENT.

The ADEME has assessed the environmental impacts of consumer products, equipment goods, and other industrial products and has concluded that nearly 50% of our product responsibility is linked to greenhouse gas emissions. Eco-design then becomes a process that will have a strong environmental impact. In this module, we will cover:



How to conduct an eco-design study
What tools can be used to evaluate the environmental footprint throughout the product life cycle, quantify and measure the achievement of reduction objectives, and integrate eco-design into communication
How to build and plan a product/environment-oriented policy

4. LEARNING OUTCOMES.

Identify the demand, functions, costs, and benefits
Measure the consumption reduction objectives to be achieved
Implement diagnostic, balance sheet, and environmental analysis tools
Build a product policy
Implement documentation
Validate, monitor, and correct the study

5. OBJECTIVES.

Essential components of this module:
By understanding what design entails
By being aware of the environmental impacts during product development
By applying the eco-design analysis approach

6. COURSE ORGANISATION.

UNITS

1. *Introduction, background and standards*
2. *Life cycle analysis theory*
3. *How to carry out an eco-design: software application*
4. *Multi-criteria analysis*

LEARNING RESOURCES AND TOOLS.

The resources will all be available online. After assimilating the teachings, a concrete case study of a eco-design will be carried out.

PLANNED LEARNING ACTIVITIES AND TEACHING METHODS.

Individual work for online courses. The case study will be done in homogeneous groups.

7. ASSESSMENT METHODS, CRITERIA AND PERIOD.

The assessment will take place at the end of the semester, in the form of a group written report and



an individual report, focusing on the case study.

OBSERVATIONS.

None

8. BIBLIOGRAPHY AND TEACHING MATERIALS.

None

