

Course edition	2	Academic Year	2023/2024
Ref.	MBUILD01 / M11		
MODULE	CONCEPTS AND STRATEGIES FOR SUSTAINABILITY		
ECTS	6		
Year/Semester	Y1/S1		
Class hours	4 h/week * 13 weeks = 52 h		
Teaching location	FEUP, Porto, Portugal		

1. OBJECTIVES

This module aims to transmit the main concepts of sustainability and its various possible levels of approach for the construction sector. Frameworks like the UN Sustainable Development Goals, EU legislative and regulatory documents on sustainability and circular economy and the European Framework for Sustainable Buildings, Level(s) will be explored in order to understand the main concerns and the most adequate strategies to be adopted.

2. LEARNING OUTCOMES AND COMPETENCES

At the end of this module, the students should be able to:

- Master the main concepts of sustainability and to understand the various possible levels of approach;
- Be acquainted with the Sustainable Development Goals (SDG) and with how these goals could be pursued in the construction sector;
- Identify the most sustainable strategies and solutions to be applied in a building project;
- Know available methodologies and tools for assessing the sustainability level of those strategies and solutions.

3. SYLLABUS/TOPICS

1. What is Sustainability? The three pillars: environmental, economic and social sustainability.
2. The evolution of concepts and strategies over time.
3. The emergency of climate change. Implications.
4. Depletion of natural resources.
5. Sustainable Development Goals SDG.
6. The implementation of SDGs. Impact on the construction sector.
7. Affordable and clean energy.
8. Sustainable cities and communities.
9. Legislative and regulatory framework, the case of EU.
10. Strategies for a circular economy in building construction.
11. Materials sustainability: LCA fundamentals.
12. Levels: European Framework for Sustainable Buildings.
13. Case studies.

4. MANDATORY REFERENCES

- United Nations, World Commission on Environment and Development (1987). *Our Common Future* (aka Brundtland Report);
- United Nations, (2022) *The Sustainable Development Goals Report*;
- Jeffrey D. Sachs et als, (2022), *Sustainable Development Report, From Crisis to Sustainable Development*:

the SDGs as Roadmap to 2030 and Beyond, Cambridge University Press;

- European Commission (2019), *European Green Deal*;
- Nicholas Dodd et als (2021), *Level(s) Users Manuals*, European Commission.

5. ADDITIONAL REFERENCES

Other resources to be provided during the module, in connection with the way the coursework will be developed.

6. ASSESSMENT TYPE

Distributed + Final Exam

7. ASSESSMENT COMPONENTS AND CALCULATION OF FINAL GRADE

7.1. Normal assessment (two opportunities)

The module will be assessed by:

- A group coursework, to be developed, in three parts, during the teaching period;
- Exam, at the end of the teaching period.

Group Coursework	50%
Exam	50%
	100%

7.2. Resit assessment

In the case of students that failed the module in the normal assessment, and as the next instance of the module will occur when they will not be in the university where it will be delivered, the following procedure will be followed:

- Re-submission of a revised group coursework;
- Or/and taking the exam of the new instance of the module, to be done at the university where the student is residing, at the same date/time and equal to the one in the university where the current module is being delivered.

8. TEACHING STAFF

Name	Position	University	email
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