

Course Unit	Option II - Design and Sustainability		Field of study	Design	
Bachelor in	Art and Design - Minor in Design		School	School of Education	
Academic Year	2022/2023	Year of study	3	Level	1-3
Type	Semestral	Semester	2	ECTS credits	5.0
			Code	9898-662-3203-01-22	
Workload (hours)	135	Contact hours	T	-	TP
			18	PL	20
			TC	-	S
			-	E	-
			OT	16	O
			-		-

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) Jacinta Helena Alves Lourenço Casimiro da Costa

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Understand the historical context, social context and emerging paradigms of sustainable design;
2. Understand current design and sustainability perspectives;
3. Apply the terminologies of sustainable, design and ecodesign;
4. Apply eco-design and sustainable design strategies in social, economic, cultural, technological and environmental aspects in a product development;
5. Know the methodologies of sustainability analysis for design projects;
6. Select oriented system solutions for sustainability.

### Prerequisites

Before the course unit the learner is expected to be able to:  
Without pre-conditions

### Course contents

1. Sustainable Design - Historical Context; 2. Eco-efficiency in design; 3. Ecodesign and sustainable design strategies; 4. Analysis methodologies; 5. Case studies.

### Course contents (extended version)

1. Sustainable Design - Historical Context
  - Environment and sustainable development - Historical, social context and emerging paradigms;
  - Natural resources;
  - Definitions of sustainable development and ecodesign.
2. Eco-efficiency in design:
  - Product life cycle;
  - Sustainability indicators and metrics;
  - Sustainable development strategies;
  - Eco-management tools in sustainability;
  - Case study analysis.
3. Ecodesign and sustainable design strategies:
  - Replacement of materials - Eco-materials;
  - Replacement of materials by services;
  - Case study analysis;
4. Methodologies of analysis:
  - Project appraisal / sustainability enhancement;
  - Methodologies of analysis;
  - SPS Global Analysis - System-Product-Service;
  - Systemic solutions oriented towards sustainability;
  - Case study analysis.
5. Case studies:
  - Projects, national and international, with systemic solutions oriented towards sustainability.

### Recommended reading

1. ALASTAIR, F. F. (2009). Making Futures: The crafts in the context of emerging global sustainability agenda - Plymouth College of Art;
2. CRUL, M. R. M. & DIEHL, J. C. (2005). Design for sustainability. A Practical approach for developing economies. UNEP TUDelft, Paris;
3. FRY, T. (2008). Remakings Ecology. Design Philosophy Papers – Envirobook, Sydney;
4. GOEDKOOP, M. (2000). The Eco-indicator 99: A Damage Oriented Method for Life-cycle Impact Assessment: Manual for Designers. PRé, Product Ecology consultants;
5. GORDON, A. & SUZUKI, D. (1990) - It's a matter of survival - Harvard University Press. Cambridge, Massachusetts;

### Teaching and learning methods

This UC is based on theoretical classes of expository nature through audiovisual information and supporting texts where it will be promoted the debate and the participation of the students. In the practical component apply the development of individual and / or group work where theoretical knowledge will be consolidated in order to the reflection of the different areas proposed ia autonomous.

### Assessment methods

1. CONTINUOUS EVALUATION - (Regular, Student Worker) (Final)
  - Projects - 60%
  - Reports and Guides - 30%
  - Presentations - 10%
2. EXAM EVALUATION - (Regular, Student Worker) (Supplementary, Special)
  - Projects - 60% (nº 4 art. 7 Frequency and Evaluation Regulations - Classification obtained in Continuous Assessment)
  - Practical Work - 40% (Theoretical practical work proposal with the respective technical report and oral presentation.)

### Language of instruction

Portuguese, with additional English support for foreign students.

## Electronic validation

Jacinta Helena Alves Lourenço Casimiro da Costa	Helena Maria Lopes Pires Genésio	António José Santos Meireles	Carlos Manuel Costa Teixeira
14-12-2022	15-12-2022	23-01-2023	29-01-2023