

Faculty: Science and Technology

Course: Eco-conception

Programme: Study Abroad in Engineering

Semester: 1 – Fall

ECTS credits: 3

Duration: 22,5 hours

Language of instruction: English

Instructors: Mercè Domènech

Course Description

The lectures will provide a basic understanding of eco-design.

General Objective (EN)

- Awareness of environmental issues.
- Put ecodesign at the heart of every project.
- Acquire various eco-design methodologies.
- Transmission of historical, social, economic and political knowledge on sustainable development.
- Global vision of design and its impacts.

Prerequisites None

Attendance and punctuality policy

Attendance is mandatory for all classes. Any presentation or activity missed due to student absences can only be rescheduled in cases of certified medical or family emergencies. If a student misses more than three classes in any course half a letter grade will be deducted from the final grade for each additional absence. Seven absences in 6 ECTS courses or four absences in 3 ECTS courses will result in a Fail grade. Notice that there is a minimum of 80% attendance. Students will be marked ABSENT from any class if they arrive more than 20 minutes late. Students will not be permitted to enter the class unless the professor specifically accepts it. Even if the instructor allows students to join the class, they will still be marked as absent for that lesson.

Absences can be justified in the following cases: Death of a first-degree relative, serious illness of the student/ first-degree relative or obligation to attend legal affairs. In all these cases a

document or receipt must be sent via e-mail to studyabroad@uvic.ca adding your professor in copy. Important! In case of injury/ illness of the student, a medical document issued in Vic* needs to be provided.

*Medical documents accepted: physical doctor's notes which contain the hospital's stamp and signature in handwriting OR digital doctor's notes which contain the doctor's valid digital signature (a digital signature is valid when it shows the authentication of the person who signs and prevents the pdf to be modified after being signed).

Learning outcomes

By the end of the course, students should be able to:

Targeted Skills (EN)

- 1- - Ability to develop an environmentally critical approach to a project
- 2- - Ability to analyze the impact of the project
- 3- - Acquire ecological common sense
- 4- - Ability to develop a coherent approach
- 5- - Ability to create an eco-designed project

Method of presentation

Each session will be supported by a presentation.

The last 10/15 minutes of the session will be dedicated to an exchange (questions/answers) with the students on the content of the presentation.

Required work and assessment methods

		% weight on evaluation	Non satisfactory	Satisfactory	Great work	Mastery
P R O J E C T	Idea, rationale behind it	10				
	Critical approach	10				
	Application of methodology	10				
	Viability of project	10				
	Impact of project	10				
	Presentation skills	10				
	Written presentation	10				
	Pro-active participation in class	10				

	Exam	20				
		100%				

All students, in groups, will be asked to present a project, an approach or a service using eco-design concepts. The project will be structured through a given methodology.

Contents

Unit One: Presentation of the syllabus. Introduction to sustainable design. (definition of terms, environmental issues, need for eco-design).

Week 1 (12.9.24). Presentation of the syllabus. Introduction to sustainable design

Unit Two: Philosophy, anthropology and sociology courses on the relationship between modernity and nature. What we produce, produces a narrative, and imaginaries.

Week 2 (19.9.24). Why the need for eco-conception? How did we get here? Historical context

Week 3 (26.9.24). Philosophy, anthropology and sociology on the relationship between modernity and nature.

Week 4 (3.10.24). Mind models, abstraction, narrative, imaginaries

Unit Three: Presentation of designs and methodologies for application in the project. Explanation of the role of design in interdisciplinarity.

Week 5 (10.10.24) 3 hours session From ideas to products/services (intro to Pentagrowth) All groups together (70 pax)

Week 6 (17.10.24). No class

Unit Four: Presentation of designers involved in eco-design and their projects (Papanek, Precious Plastic, The toaster project, etc.). Presentation of different eco-design approaches (Low-tech, Biomimicry, Cradle to Cradle, open-source, LCA...).

Week 7 (24.10.24). General methodologies (double-diamond, Nbs SBTi, water, CO2) and tools

Week 8 (31.10.24). Presentation of designers involved in eco-design and their projects. Visit if possible.

Project: (7 groups of 5 people)

Week 9 (7.11.24). 3 h session *Presentation of methodology applied to project (all 70 alumni 2 groups together)*

*Week 10 (14.11.24):*No class

*Weeks 11, 12 and 13 (21, 28 and 5.12.24)*Eco-design project. Students will be asked to choose an issue linked to current global warming issues (pollution, water, biodiversity, etc.). Initially, they will carry out a survey and then materialize their ideas.

Their objective will be to come up with a creative solution to the problem in question. The result will be a presentation. The project can take different forms: product, service, application, guide, etc.

Week 14 and 15. (12 and 19.12.24) Presentation days

Exam: To be confirmed (TBC)

Recommended reading/watching

BASIC

[THE CONSPIRACY OF THE LIGHT BULB](#) documentary

[MINIMALISM](#) documentary

[THE ART OF LIFE](#) documentary

- Ethics for Design de Gauthier de Roussilhe (<https://vimeo.com/235547814>)

- Precious Plastic de Dave Hakkens (<https://www.youtube.com/watch?v=8J7JZcsoHyA>)

COMPLEMENTARY

[DARWIN'S NIGHTMARE](#) documentary

Sites:

-Cradle to cradle de Michael Braungart et William McDonough

- Innovation Jugaad. Redevenons Ingénieux ! de Navi Radjou

- Biomimétisme quand la nature inspire des innovations durables de Janine M. Benyus

- Design pour un monde réel de Victor Papanek

L'âge des low tech. Vers une civilisation techniquement soutenable de Philippe Bihouix

- <https://lowtechlab.org/fr>