INTEGRATING SUSTAINABILITY PRINCIPLES IN YOUR THESIS

Unit in charge: 480 (Institut de Ciència i Tecnologies de la Sostenibilitat)

Total teaching hours: 15 hours

Language: English/Catalan/ Spanish

Coordinating lecturer: Elisabet Roca Bosch

Other lecturers: Olga Alcaraz - Gemma Tejedor - Alvar Garola - Elisabet Roca - Miriam Villares - Gemma Cervantes - Eva Vidal

Teaching methodologies:

Cooperative learning, theoretical class, project-based learning, role-play. Individual activities, pair work and teamwork. Written and audiovisual materials will be shared to promote debate in the class.

Learning objectives:

Recognize the human being as an eco-dependent and interdependent subject operating on a finite planet.
Understand the concept of sustainable development and reflect on some of its implementations. Sustainability as a systemic conceptual framework that allows addressing the major challenges currently faced by humanity. To get in contact with new perspectives and research paradigms: Citizen science, collaborative and transdisciplinary science. To be able to critically reflect on the process of co-production of knowledge and understand the value of actors’ participation. To be able to identify and characterise actors in each PhD students’ research and to propose strategies to integrate them in each research stage.

To be introduced to the concept of indicators and indexes and to the systemic approach of indicators. To come to understand the methodology and process for building an indicator set. To be able to reflect in the indicators set the environmental, social and economic aspects of sustainability. To have the tools to build a sustainability indicators system for the research projects.

To be aware of non-financial reporting regulations and regulations concerning research ethics. To be able of reporting on the environmental, social, economic and ethical impacts of the thesis.

Course contents:

Sustainability as a development paradigm that provides answers to the challenges currently faced by humanity. Historical background and introduction to the concept of sustainable human development. The systemic vision of sustainability and its social, environmental, and economic dimensions. The major principles of sustainability and their application in various areas of knowledge. (3 hours)

Ethics, research and sustainability. The ethical components in the research process from a double perspective, the ethics during the research process and the ethics of the results obtained and their impacts. Ethics and sustainability, in the short and long term. Financial determinants of research impacts. (3 hours)

New research paradigms: citizen science, collaborative and transdisciplinary science. The actors involved in the research and knowledge production. Strategies to open up research processes and integrate society in more collaborative fashion. (3 hours)

Concept of indicator and index. Types of indicators and indexes. Methodology for the creation of a set of sustainability indicators. System functions, criteria, objectives, themes. Indicators calculation and units. Indicators for a baseline and for comparison. Creation of a set of sustainability indicators for a specific research project (3 hours)
Non-financial reporting regulations. Regulations concerning research ethics. Report on the environmental, social and economic impact of the thesis. Questions to be answered about the sustainability and ethical implications of the work carried out and the conclusions or actions proposed. (3 hours)

Basic bibliography:


UPC 2023. Codi d'integritat de la recerca

Complementary bibliography:

EC 2021. EU Grants: How to complete your ethics self-assessment.


