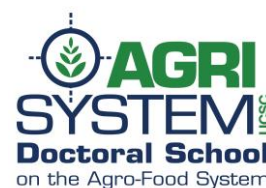




UNIVERSITÀ
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Sustainable Food Production and the Environment

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Course Aims

The course provides theoretical and practical foundations for understanding sustainable food production and its interaction with the environment. Through a multidisciplinary approach, students will learn how to apply environmental impact assessment using Life Cycle Assessment (LCA) to agri-livestock supply chains, gaining a solid understanding of key environmental sustainability indicators, such as the carbon footprint and water footprint. The course promotes the adoption of a systemic and integrated approach to sustainability in agri-food systems, in line with European objectives for the transition toward a low-carbon economy and the United Nations Sustainable Development Goals (SDGs). Emphasis is placed on developing a critical and informed understanding of strategies to mitigate environmental impacts in the agri-food sector, including greenhouse gas emission reductions and the efficient use of natural resources. The course explores the use of environmental communication tools to effectively convey sustainability performance to stakeholders across the production chain, fostering transparency and environmental responsibility within the agri-food system.

Methodology

The course adopts an interactive and multidisciplinary approach, structured through a combination of complementary methods: lectures supported by presentations, videos, and case studies; guided discussions on real-world examples of production systems and sustainability strategies; and applied analysis of a simplified LCA model covering system boundary definition, functional unit identification, inventory compilation, impact assessment, and interpretation of results. Through a participatory approach, Ph.D. students are encouraged to reflect on the environmental impact of management, production, and dietary choices, fostering their ability to integrate technical, scientific, and socio-economic knowledge within a systemic sustainability framework.

The course is taught in English.

Course description

The course is structured into four modules of two hours each, for a total duration of eight hours:

- Introduction to sustainability and the SDGs
- Study of the environmental impact of agri-livestock supply chains and food systems
- Study of LCA (structure, practical application) and environmental communication strategies
- Group work: development of specific case studies and discussion of the approaches adopted

Recommended texts

Reading materials are provided during the class or posted on the website.