

Module title	4.3 Scientific methods III
Workload (ECTS)	3 ECTS
Module coordinator	Dr. Christine Jurt Vicuña Muñoz
Contributing lecturers	<ul style="list-style-type: none"> Dr. Maria Franco Mosquera
Entry requirements	None
Description	<p>The complex global challenges around sustainable development – including the environmental, social, cultural, political and financial issues linked to the circular economy paradigm – demand expertise and collaboration across academic disciplines and different non-academic sectors of society. While scientific and technological solutions are needed to tackle complex challenges, they must be linked to social change and economic development if they are to be considered transformative innovations. Transdisciplinary research, therefore, is aimed at understanding complex issues of practical relevance, and relies on collaborative work involving academic researchers from different unrelated disciplines (i.e., interdisciplinarity), and non-academic stakeholders such as civil society, NGOs or businesses (i.e., transdisciplinarity), to create societal value. Students in this course will learn about transdisciplinarity and how to design, carry out and evaluate effective transdisciplinary projects.</p>
Learning outcomes and competences	<p>Competences:</p> <p>Students:</p> <ul style="list-style-type: none"> Can reflect on transdisciplinary research, its principles and ethical implications recognize when and which transdisciplinary methods can be used in a meaningful way work competently in transdisciplinary groups building on the competences they have built up during the course engage in dialogue about policy options with the public, stakeholders and policymakers in inclusive environments <p>Outcome:</p> <p>Students</p> <ul style="list-style-type: none"> can explain and discuss the opportunities and challenges that transdisciplinary brings along in specific projects know different transdisciplinary methodological approaches, applicable to the different stages of a transdisciplinary project will be able to recognize, analyze and present the different perspectives of the diverse actors involved in the specific questions that need to be tackled in the particular transdisciplinary project will be able to set up a process of co-creation of knowledge among the diverse actors involved for jointly developing contributions to the solution of wicked problems can design a transdisciplinary research project and know how to select suitable methods for dealing with wicked problems, especially in the sustainability realm

Assessment of learning outcomes	<p>During the module the students will be working in a group of 2-3 students, which has already been set up in module 4.1. and will present a transdisciplinary process going through different stages that they have put into practice in their particular field of interest.</p> <ul style="list-style-type: none"> • Group report • Individual oral exam
Didactic approach	<ul style="list-style-type: none"> • Contact teaching • individual and group exercises • learning video • case study
Project-based learning	<p>During the module the students will form a group of 2-3 people and student groups will present a short transdisciplinary case study in their particular field of interest going through the different stages of their transdisciplinary project exercise. This allows the students to get to know their actual skills of participating in a transdisciplinary group and to improve their competences respectively during the project.</p>
Links to other modules	<ul style="list-style-type: none"> • 4.1 Scientific methods I • 4.2 Scientific methods II • 3.1 Society and technology
Bibliography	<p>Victoria Wibeck, Karin Eliasson, Tina-Simone Neset, Co-creation research for transformative times: Facilitating foresight capacity in view of global sustainability challenges, Environmental Science & Policy, Volume 128, 2022, Pages 290-298,</p> <p>Brouwer, H., Woodhill, J., Hemmati, M., Verhoosel, K., van Vugt, S. (2015). The MSP guide – how to design and facilitate multi-stakeholder partnerships. The MSP Guide – MSP Guide</p> <p>Hirsch Hadorn G et al. (eds.) (2008) Handbook of Transdisciplinary Research. New York: Springer.</p> <p>Pohl C, Hirsch Hadorn G (2007) Principles for Designing Transdisciplinary Research. Proposed by the Swiss Academies of Arts and Sciences. München: oekom Verlag.</p>
Language	English
Location	TBD