



UNIVERSITÀ
DI TRENTO

UNESCO Chair in
Engineering for Human and Sustainable Development



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Chair

COURSE

Engineering for International Sustainable Development

MODULE I (METHODS)

A.Y. 2025-2026

RESPONSIBLE PROFESSOR: Massimo Zortea

CO-PROFESSORS: Federica Maino, Gerardo de Luzenberger

CONTEXT: the course, promoted by the University of Trento, UNESCO Chair in Engineering for Human and Sustainable Development, is part of the educational offer of the **MSc Degree in Engineering for the Environment and the Territory**, Curriculum "**Environmental Sustainability and International Cooperation (ESIC)**". However, it is open and useful to students and workers of any discipline, as it offers an opportunity for initial training and professional updating on all issues of Sustainable Development and International Cooperation.

CONTENTS: the course is divided into two **parts**, strictly interconnected (it is recommended to attend to both): *Sustainable Development and International Cooperation*; *Participatory management of projects and conflicts*. **The first part (SUSTAINABLE DEVELOPMENT AND INTERNATIONAL COOPERATION)** has the following **learning goals**: make students acquire basic knowledge, skills and competences to apply concepts, principles, strategies and theoretical-practical tools of sustainable development in their professional and working activities (in companies, in public administrations, in third sector bodies, in education / training institutions), with particular attention to the international dimension, as well as to cultivate job or volunteer opportunities in the vast field of sustainability and international cooperation. The course is also useful as a professional refresher and retraining path.

Consequently, as **expected learning outcomes**, the student, upon passing the related tests, will be able to:

- a) build and enhance a good critical understanding of specific international and local contexts in which sustainable development and in particular environmental sustainability will be applied;
- b) understand and use the basic concepts and principles related to sustainable development, especially in the environmental sphere, and the advanced c./p. peculiar to its application in the field of international cooperation;
- c) know and interact with the many subjects involved in various capacities in the areas covered by the course;
- d) understand, analyse, apply the sustainable development goals set by the system of the relevant global and local agendas, as well as the goals of other relevant global agendas (contents and methods);
- e) use and adapt to their contexts the main tools and methods for sustainable development and international cooperation, with special attention to those for environmental sustainability; in particular, to apply the *Environmental Mainstreaming Approach*.

The second part (PARTICIPATED MANAGEMENT OF PROJECTS AND CONFLICTS), developing with a strong experimental character to provide basic knowledge and tools for the management of sustainable development projects, both locally and internationally, has the following **learning goals**:

1. to offer students both a theoretical framework and a practical "toolbox" to analyse local and international contexts;
2. to offer students tools for understanding contexts and managing interventions that involve a variety of stakeholders;
3. to promote sustainable development strategies and to manage situations of social and economic conflicts.

This area develops along two complementary lines. The first has conflict – meant as a resource – as its point of observation. Thanks to the study of some case studies, it allows to understand the cultural dimension, analyse and question the power relations between the actors involved, to study their direct effects on territorial organization and innovation, introducing the topic participatory approaches in the sustainable development of the territory with particular reference to the issue of environmental conflicts, using the latter to investigate the general issue of conflict transformation and the construction of sustainable solutions that allow people to manage them. The second explores project methods, and in particular how to promote participatory sustainable development projects, offering an overview of the different approaches and basic skills necessary for their management. The contents have a strong experiential character, and are based on the analysis, also practical, of the main methodological approaches (Project Cycle Management, Appreciative Inquiry, Agile etc.) and techniques used in the management of projects in the international field, with particular attention to the most consolidated and innovative ones (Open Space Technology, World Café, Scenario Workshop, etc.).

Therefore, as **expected learning outcomes**, the student, upon passing the related tests, will be able:

- to develop a critical understanding of the context in which they are called to operate, with particular attention to the relationship between stakeholders and the environment;
- to carry out an analysis of conflict, with reference to the environmental ones, and experiment with some methods for managing them;
- to know a variety of participatory project management approaches and methods, with reference to those typically used in the field of sustainable development in international contexts.

In addition to the **ordinary lectures**, some **Optional Workshops and Seminars** will also be organized this year; their contents will be communicated later. The attendance to all these stimulating opportunities is recommended, also because the students will be actively involved in the management, for the benefit of both theoretical and practical learning. The complete **calendar** of all training activities will be communicated at the first lesson and updated during the course.

LANGUAGE: the course is held entirely in **English**.

TEACHING METHODOLOGY: an interactive approach is favoured, practical case studies, discussion forums in the classroom and on the online learning platform, experimentation with process facilitation techniques, participation in simulations and role-playing games. Just to make full use of this methodology, it is recommended to attend lectures in both thematic areas (which are not divisible).

VERIFICATION OF LEARNING: written and oral exam; the **written test** consists of a multiple-choice questionnaire; the **oral test** consists of a dissertation on a real case study chosen from a list drawn up by the lecturers also on the proposal of the students (oral performance evaluation is based on 3 parameters: 1) analytical skills, also taking into account the higher or less data availability; 2) design responsiveness; 3) exhibition capacity).

A twofold alternative is offered for the completion of the exam:

- a) **exam-exercise** in pre-appeal, consisting of an individual written test as above followed by a group project work on the case study (each group shall present the results of their work as a frontal lesson during a final event);
- b) **individual exam**, with written test on questionnaire and oral test on real case study as above.

During the course, official intermediate tests or test simulations will be proposed, on the part of the program previously carried out (optional).

VENUE-DATES-TIMES: lectures will be held in **classroom 1R** at the Department of Civil, Environmental and Mechanical Engineering (DICAM) of the University of Trento, starting **from 15th September until 22nd December 2025** with this weekly timetable: Monday 2:30 pm - 7:30 pm (usual class day) and Tuesday 2:30 pm – 7:30 pm (accessory day). Audio podcasts will be made available after each lecture.

The first session (15th September 2025) will therefore start at 2:30 pm. Don't miss it.

RECIPIENTS: university students of all MSc degrees, both scientific and humanistic; HSE or sustainability managers in profit or non-profit organizations, freelancers, professionals, public administration officials, entrepreneurs, international cooperation practitioners, teachers and lecturers interested in sustainable development and related issues, operating in national/local and/or international contexts. Enrolled students who request it to the lecturer in charge can adapt the course to their personal needs with additional information and/or bibliographic references. Dialogue with teachers and among students is very open, as well, and is encouraged and supported, to foster interdisciplinary learning.

REQUIREMENTS: full attendance to the course (which includes exam and ECTS recognition) is subject to formal registration at the University of Trento. Interested participants not enrolled in UniTrento degree courses, shall subscribe the single course ("iscrizione a corso singolo"), upon payment of a little tuition fee (<https://www.dicam.unitn.it/76/ufficio-offerta-formativa-e-gestione-studenti>).

UNIVERSITY CREDITS: **6 (six)** university credits (ECTS) are recognized to regularly enrolled participants who include the course in their study plan (NB: for non-DICAM students obviously such inclusion is subject to formal endorsement by the relevant internal bodies) and regularly pass the exam.

INFORMATION: for further information about the course see the web page of the course <https://sites.google.com/unitn.it/int-sust-dev/> and **all materials** at the following link in Drive:

https://drive.google.com/drive/folders/1OTm_4uQkj65nuwXjcoqf9vKvwu75sQx?usp=sharing

ENROLMENT: interested candidates can send a simple e-mail message with name, surname, degree course (for UniTrento students) or name, surname, background/job (for non-UniTrento students) to the lecturer in charge Massimo Zortea (massimo.zortea@unitn.it). He will provide some details on the procedure.