

jOiNEd For sUsTainability - bUilding climate REsilient communities in WB and EU

University Iuav of Venice

Task 4.2 – Workshop: Introducing innovative curricula
Working groups created based on topics and teaching field

18th April, Venice



Co-funded by the
European Union

IUAV University of Venice

Università Iuav di Venezia is one of the leading universities in Europe and across the world in the fields of **architecture, design, fashion, visual arts, urban and regional planning, and theatre.**

Established in 1926 as one of the first Architecture Schools in Italy, Iuav combines a renowned tradition with a firm commitment to permanent **innovation while putting the design process at the core of the whole educational experience.**

Degree programmes and courses in English, a wide network of worldwide partners in teaching and research, many visiting academics and professionals and vibrant student community from all over the world make Iuav an **international university.**



An interdisciplinary approach

Iuav approach is based on interdisciplinary dialogue, research, the importance of history and planning.

Iuav has always been an **experimental university**, especially in terms of teaching methods that combine **theoretical lectures** with **practical workshops**: students have the opportunity to gain experience in design with the guidance of internationally renowned architects, designers, artists, urban planners, professionals and lecturers.

At Iuav your studies focus on **learning by doing**: the workshop format characterises learning and research activities by offering **hands-on and innovative experiences** under the direct supervision of high-profile professors and professionals.



Keypoints in Iuav Education

- The educational philosophy of the University Iuav di Venezia is rooted in the concept of a unified department, known as **Cultural Project Studies**, serving as a hub where various disciplines converge.
- Through a **transdisciplinary approach**, the university integrates insights from Architecture, Urban Planning, Design, Arts, and related fields, fostering a **collaborative environment** where diverse perspectives intersect.
- This transdisciplinary perspective enables students to develop a **holistic understanding** of complex challenges, approaching them from multiple angles and fostering innovative solutions.
- Embracing transdisciplinarity as a core value, the University Iuav di Venezia empowers students to navigate the interconnected nature of **contemporary issues**, preparing them to become adaptable and innovative leaders in their respective fields.



Urban Resilience at Iuav

Bachelor's degree programme:

- **Architecture** (3 years) - italian
- **Urban and territorial planning** (3 years) - italian

Master's degree programme:

- **MA in architecture** (2 years) - eng
- **MS in urban planning for transition** (2 years) – eng
- **Architecture** (2 years) - italian
- **Urban planning for transition** (2 years) - italian

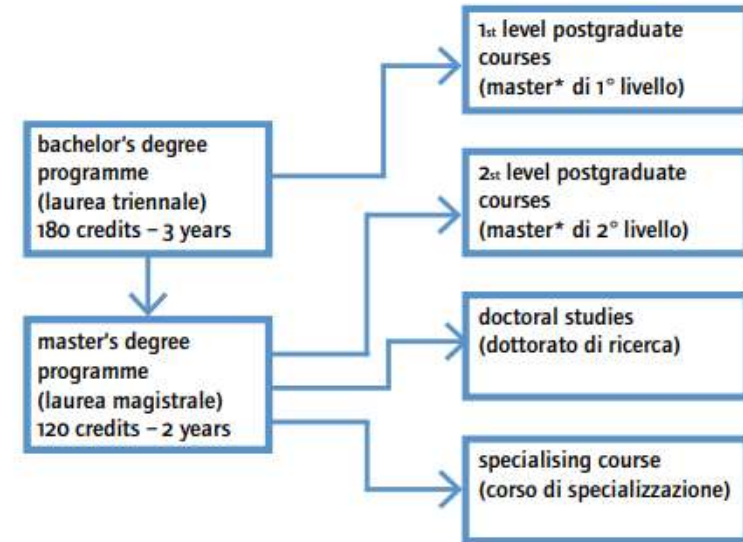
Italian university system

This scheme summarises the structure of Italian university system:

for more information on Italian university system:

Ministry of Foreign Affairs and International Cooperation

<https://www.cimea.it/EN/pagina-qualifiche-del-sistema-universitario>



*In Italy, a postgraduate specialisation programme is usually called master

Urban Resilience at Iuav

Name of the course	Year/Semester	Bachelor/Master	Syllabus
ECOLOGY FOR URBAN RESILIENCE	FIRST YEAR, II SEM	MASTER: MS for Transition	Conventional and active lectures. Students will be invited to critically review the contents presented through open and guided discussions. This module will be complemented with guided classroom hands on sessions, aimed at providing the basics of instruments and procedures of analysis. One or more seminars with external experts will be programmed, focusing on specific themes of interest.
DIGITAL CITIES AND URBAN PLANNING	FIRST YEAR, II SEM	MASTER: MS for Transition	At the end of the course, students will be evaluated through oral examination to verify the theoretical knowledge and practical skills acquired during the course starting from the discussion of their case study report. More information on the possible structure of the report will be provided during the course. This final examination represents the main proportion of the final mark (60%), but also intermediate sessions concerning the presentation of the student work's preliminary analysis (20%), as well as the ability to synthesise and clarity of the content (20%), will be evaluated and contribute to the final mark.
SUSTAINABLE PROPERTY INVESTMENT AND VALUATION	FIRST YEAR, I SEM	MASTER: Architecture	The teaching of the main techniques of economic evaluation of projects is preceded by an introductory cycle of lectures that deals with the fundamentals of microeconomics, a branch of economic science that studies how the behavior of producers and consumers contributes to the formation of prices. Fundamentals of Microeconomics. Demand and Supply. Market Forms. Evaluation of plans and projects. Evaluation of alternative investments. Evaluation of lifecycle cost. Analysis of discounted cash flows. Multicriteria evaluation.
TRANSPORTATION PLANNING	FIRST YEAR, I SEM	MASTER: Urban Planning (ITA)	This course aims to provide students with both the basic tools and the appropriate methods to deal with any planning process, and to evaluate the economical, environmental and financial sustainability. The course aims at analysing the relations between mobility, economics, and territory. The basic elements of transportation planning will be investigated, as well as their effects on general economics and territorial planning
CIRCULAR CITY STUDIO	FIRST YEAR, II SEM	MASTER: MS for Transition	The course adopts a multidisciplinary approach, exploring territorial planning and urban design through circularity and metabolic flow spatialization. It encompasses Circular Dynamics for understanding flows, Circular Planning for non-linear approaches, and Circular Design for translating analysis into sustainable concepts, fostering a comprehensive understanding of socio-ecological transitions in urban systems.



Urban Resilience at Iuav

<p>SPATIAL PLANNING FOR CLIMATE CHANGE STUDIO</p>	<p>FIRST YEAR, I SEM</p>	<p>MASTER: MS for Transition</p>	<p>The main objective of the Laboratory is to encourage students to envision the future of cities and territories with a climate-proof approach, envisioning interventions that integrate measures, policies, and tools for a low-carbon ecological transition aligned with global agendas.</p> <p>In this process, specific objectives include:</p> <ul style="list-style-type: none"> a) Understanding the relationship between land management and planning to enhance knowledge of complex and dynamic areas, both in terms of governance and resilience processes; b) Learning the basic concepts of urban and environmental planning focused on resilience; c) Framing processes related to the Global Climate framework, comprising actors, agreements, and governance levels; d) Increasing knowledge of key urban planning tools related to sustainable city and territory design in a climate change scenario; e) Identifying appropriate planning, design, and urban planning techniques to support mitigation and adaptation strategies; f) Defining innovative and strategic planning tools to support resilience.
<p>TRANSPORT TECHNOLOGY AND ECONOMICS</p>	<p>FIRST YEAR, I SEM</p>	<p>BACHELOR: Architecture</p>	<p>The teaching aims to provide the basic knowledge about their characteristics through theoretical lectures, illustrations of case studies and exercises on real data. The student will acquire a scientific approach to the qualitative and quantitative analysis and evaluation of the transportation systems, with particular attention to environmental, economic and social effects. The techniques for designing the transport systems will be explained. The student will understand the classification of infrastructure, vehicles and traffic rules and will define the appropriate use of resources (in terms of vehicles, money and personnel).</p>



Urban Resilience at Iuav: studio courses

- Each semester, students participate in a laboratory course known as a studio, typically valued at **15 credits**. Studios are divided into **modules**, fostering **multidisciplinary engagement** by involving professors from various fields. This approach encourages diverse perspectives on shared issues.
- To underscore the interdisciplinary nature of urban resilience, students are organized into groups within each studio. Each group is tasked with analyzing a specific **case study**, such as a **neighborhood, city, or region**.
- Each group, comprising approximately 4-5 students, is carefully curated to include individuals **with diverse backgrounds and nationalities**.
- The studio proceeds through several phases, including
 1. **initial analysis to understand the current state of the area**
 2. **territory diagnosis to assess the impact of climate change**
 3. **project design to propose tailored solutions.**



Urban Resilience at Iuav: theoretical courses

- Theoretical courses are designed **to complement the studios** by providing students with the theoretical foundation and tools necessary **to actively apply their knowledge** in projects.
- These courses offer an in-depth introduction to key concepts and **relevant methodologies** for project development, preparing students **to tackle complex challenges** in an informed and competent manner.
- Through the **integration of theory and practice**, students are able to develop a deeper understanding of the concepts studied and apply them in real-world contexts, thereby enhancing their **problem-solving** and innovation skills.

Theoretical courses

Economics for the ecological transition (6 credits)
Geology for natural hazards management (6 credits)
English for urban planning (3 credits)
History of contemporary architecture and city (6 credits)

Theoretical courses

Digital cities and urban planning (6 credits)
Ecology for urban resilience (6 credits)
Global environment and city law (6 credits)
Heritage and landscape in planning for resilience (6 credits)
Policy design (6 credits)
Urbanization theories and planning practices (6 credits)





New interdisciplinary master's programs

novità 2024-2025!

corsi di laurea magistrale in fase di accreditamento MUR Ministero dell'università e della ricerca:

- a ciclo unico in Architettura. Conservazione proattiva del patrimonio nelle aree a rischio
- Engineering for renewable energy in coastal environment / Ingegneria per le energie rinnovabili in ambienti costieri
- Mobilità sostenibile e connessioni intelligenti in ambienti marini e costieri / Sustainable transportation and smart maritime mobility
- Moda



New interdisciplinary master's programs

Name of the course (NEW MASTERS)	Year/Semester	Bachelor/Master	Syllabus / Modules
TRANSPORT PLANNING AND MANAGEMENT	FIRST YEAR	MASTER: Sustainable transportation and smart maritime mobility	SYLLABUS AVAILABLE IN JULY
STUDIO LARGE INFRASTRUCTURES IN THE COASTAL LANDSCAPE (PROJECT AND MAINTENANCE)	FIRST YEAR	MASTER: Sustainable transportation and smart maritime mobility	MODULE 1 - STRUCTURAL SAFETY AND RELIABILITY OF NEAR SHORE MARITIME INFRASTRUCTURES and MODULE 2 - INFRASTRUCTURAL NETWORKS IN THE COASTAL LANDSCAPE
STUDIO MARITIME TRANSPORTATION AND LAND USE PLANNING	FIRST YEAR	MASTER: Sustainable transportation and smart maritime mobility	MODULE 1 - DESIGN AND CONSTRUCTION OF TRASPORTATION INFRASTRUCTURES MODULE 2 - TERRITORIAL PLANNING IN COASTAL AREAS





New interdisciplinary master's programs

<p>INFRASTRUCTURES FOR SUSTAINABLE DEVELOPMENT IN COASTAL ENVIRONMENTS</p>	<p>FIRST YEAR</p>	<p>MASTER: RENEWABLE ENERGY ENGINEERING IN COASTAL ENVIRONMENT</p>	<p>MODULE 1 - PLANNING SUSTAINABLE AND RESILIENT COASTAL ENVIRONMENTS MODULE 2 - GIS AND SATELLITE AND DIGITAL SURVEY OF COASTAL ENVIRONMENTS</p>
<p>ECOLOGY AND ENVIRONMENTAL ASSESSMENT</p>	<p>SECOND YEAR</p>	<p>MASTER: RENEWABLE ENERGY ENGINEERING IN COASTAL ENVIRONMENT</p>	<p>MODULE 1 - ECOLOGY OF MARINE ENVIRONMENTS MODULE 2 - STRUCTURAL DESIGN AND RISK ANALYSIS MODULE 3 - ENVIRONMENTAL AND ENERGY ASSESSMENT</p>





SDGs and IUAV Education

	Reference SDGs	Are they part of bachelor's or master's degree programs?	Course credits - ECTS	Course web page link
Sustainable economic management of the project	9. Industry, Innovation, and Infrastructure; 11. Sustainable Cities and Communities	Master	6	https://iuav.coursecatalogue.cineca.it/insegnamenti/2023/7568/2021/9999/10227?coorte=2023&schemaid=1614
Sustainable architecture	7: Affordable & Clean Energy; 11. Sustainable Cities and Communities; 12. Responsible Consumption and Production	Master	18	https://iuav.coursecatalogue.cineca.it/insegnamenti/2023/7263/2021/9999/10225?coorte=2023&schemaid=1578
The sustainable project for the city	11. Sustainable Cities and Communities	Master	18	https://iuav.coursecatalogue.cineca.it/insegnamenti/2021/7266/2021/9999/10225?coorte=2021&schemaid=1482
Circular City Studio	7: Affordable & Clean Energy; 11. Sustainable Cities and Communities; 12. Responsible Consumption and Production; 13: Climate action	Master	15	https://iuav.coursecatalogue.cineca.it/insegnamenti/2022/7229/2021/1/10221?coorte=2022&schemaid=1536





IUAV approach: learning materials

- **Case studies:** analyzing real planning projects and their challenges and solutions.
- **Workshops and seminars:** where students can interact with industry professionals and discuss best practices.
- **Simulations and role-playing games:** to experience climate planning and urban resilience in simulated contexts.
- **Practical laboratories:** involving the analysis of climate data, modeling, and designing solutions.
- **Research projects:** allowing students to delve into a specific topic under the guidance of a faculty member.





Conclusions and keypoints

- **Interdisciplinary Approach:** to emphasize interdisciplinary collaboration by integrating various fields such as architecture, urban planning, design, and the arts, fostering diverse perspectives and innovative solutions.
- **Hands-on Learning:** to prioritize practical, project-based learning through studios, where students engage in real-world challenges, applying theoretical knowledge and developing critical thinking skills.
- **Global Perspective:** to promote diversity and international collaboration, with students and faculty from different backgrounds and nationalities contributing to a rich learning environment focused on addressing global urban challenges.



Discussion

- Each of you, please present the course and your teaching approach

Workshop Group 3
Urban Resilience
IUAV
Waste Treatment Technology (UPT)
Ecology (UPT)
Urban Waste Management (UPT)
Commodity knowledge (CEPS)
Traffic and spatial planning (CEPS)
Technology and organization of urban transport (CEPS)
Transport planning (CEPS)
Protection in traffic (CEPS)
Transport Protection (CEPS)
Ecology (CEPS)



Starting from the SDGs

- Which Sustainable Development Goals (SDGs) does your specific course integrate?
- Using a transdisciplinary approach, which other SDGs could it include?
- Consequently, which other disciplines might work closely with your subject?



Let's try to build innovative courses

- Let's choose two courses of different topic.

QUESTIONS

- With which SDGs can we integrate it?
- How can we build it using a transdisciplinary approach?
- What can students gain from this “new” course?

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Protection in traffic (CEPS)
Transport Protection (CEPS)
Ecology (CEPS)



THANK YOU FOR YOUR ATTENTION

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