



UNIVERSITÀ DEGLI STUDI DI PALERMO

DEPARTMENT	Architettura
ACADEMIC YEAR	2021/2022
SECOND CYCLE (7TH LEVEL) COURSE	URBAN, REGIONAL AND ENVIRONMENTAL PLANNING
SUBJECT	ELEMENTS OF TECHNOLOGICAL DESIGN FOR SETTLEMENTS
TYPE OF EDUCATIONAL ACTIVITY	C
AMBIT	20963-Attività formative affini o integrative
CODE	21497
SCIENTIFIC SECTOR(S)	ICAR/12
HEAD PROFESSOR(S)	MAMI' ANTONELLA Professore Ordinario Univ. di PALERMO
OTHER PROFESSOR(S)	
CREDITS	6
INDIVIDUAL STUDY (Hrs)	102
COURSE ACTIVITY (Hrs)	48
PROPAEDEUTICAL SUBJECTS	
MUTUALIZATION	
YEAR	2
TERM (SEMESTER)	2° semester
ATTENDANCE	Not mandatory
EVALUATION	Out of 30
TEACHER OFFICE HOURS	MAMI' ANTONELLA Tuesday 11:30 13:30 Studio del docente presso Dipartimento di Architettura viale delle Scienze ed.8 - Previo appuntamento via mail

<p>PREREQUISITES</p>	<p>Ability to recognise the typological, morphological characteristics of the city and settlements relevant to planning choices in new and existing buildings. This ability should be already established thanks to the previous didactic experiences provided by the training course, with particular reference to general and implementation planning, to the methods of representation of the city and settlements, to the basic knowledge related to infrastructures and services in the urban context, to the themes of sustainable development.</p>
<p>LEARNING OUTCOMES</p>	<p>KNOWLEDGE AND UNDERSTANDING: Knowledge in the field of the constructive genesis of the city: open spaces, infrastructural networks and the relationships between buildings and settlement. Ability to analyse the consumption of resources in the built environment. Ability to analyse urban and building accessibility.</p> <p>APPLYING KNOWLEDGE AND UNDERSTANDING: Capacity to indicate plan solutions for the constructive definition of urban spaces, for the environmental sustainability of settlements, for urban and building accessibility, for the design and management of infrastructures and networked services.</p> <p>MAKING JUDGEMENTS: Aptitude to verify in simulation and in reality the congruity and compatibility of the chosen solutions with the existing, also in the face of a wide panorama offered by the literature and technical information.</p> <p>COMMUNICATION SKILLS: Ability to communicate in written-graphic form and orally the reasons for own technical choices and the results of the performed analyses.</p> <p>LEARNING SKILLS: Ability to update and to document within the context of discipline topics.</p>
<p>ASSESSMENT METHODS</p>	<p>The evaluation of learning, on a scale of thirty, will consist of only one final exam. It will consist in an individual interview during which an oral test will be conducted on the topics covered and the illustration of any papers produced as an exercise.</p> <p>The questions, open ended and not less than four, and the papers produced will test the learning outcomes and verify: a) possession of adequate expository capacity and correct use of technical and graphic language; b) acquired knowledge; c) the ability to revise the knowledge acquired and to transpose it into planning and programming solutions. As far as the verification of knowledge is concerned, the ability to establish connections between the theoretical contents and the proposed solutions concerning the implementation planning of technological services and the physical consistency of urban spaces will be assessed.</p> <p>The criteria for defining the assessment thresholds are the following: Excellent (30-30 e lode): excellent knowledge of the topics, excellent language skills, good analytical ability, the student is able to apply knowledge to solve the proposed issues effectively and identify correct and appropriate solutions; Very good (26-29): good mastery of the subjects, full language skills, the student is able to apply knowledge to adequately solve the proposed issues and identify correct and appropriate solutions; Good (24-25): Basic knowledge of the main topics, fair language skills, the student is able to apply knowledge to solve proposed issues and identify solutions albeit with some uncertainty; More than sufficient (21-23): the student does not have full mastery of the main topics of the program, but he possesses the necessary knowledge, a satisfactory language skills, a limited ability to apply his/her knowledge in problem solving and identifying the solutions; Sufficient (18-20): the student has a minimum basic knowledge of the main issues of the program and of the technical language, just enough ability to independently apply the acquired knowledge to solve the proposed issues and identify the solutions; Insufficient: the student does not have the minimum acceptable knowledge of the main issues of the program and of the technical language, he/she do not possesses the ability to apply his/her knowledge to solve the proposed issues and identify the solutions.</p>
<p>EDUCATIONAL OBJECTIVES</p>	<p>The aim of the course is to train students in relation to the issues involved in the transformation processes of matter and resources (renewable and non-renewable) in settlements, with a view to environmental sustainability and the circular economy. Students will be guided towards the knowledge of the</p>

	<p>principles and criteria that guide the construction of the technical elements of buildings in the building fabric and, more specifically, of public spaces and infrastructures, in relation to their context (climatic, socio-economic, cultural, technological, etc.) and in compliance with the requirements related to the protection of the environment (natural/artificial building materials, energy resources, renewable/non-renewable, water, etc.). It will deal with the configuration and/or recovery of built heritage, taking into account the needs of contemporary society, which is increasingly oriented towards configuring/regenerating comfortable, safe, inclusive, healthy and low ecological footprint settlements.</p> <p>During the hours of the module, specific topics will be dealt with, which may contribute to the formation of the planner's cultural and operational background for the drafting of thematic plans, such as PAES, PUMS, PEBA, etc..</p> <p>At the end of the course, the student must be able to describe the solutions and techniques of intervention on settlements in relation to buildings, open spaces, urban infrastructures and technological networks. The solutions will be proposed according to the most recent trends in environmental sustainability and inclusion, according to the most up-to-date technological guidelines to finalise the plan forecasts. The aim is to adapt settlements to the needs of contemporary users and to safeguard and enhance the environment.</p>
TEACHING METHODS	<ul style="list-style-type: none"> - Lectures - Graphs of analysis and intervention - Seminars
SUGGESTED BIBLIOGRAPHY	<ul style="list-style-type: none"> - Lauria A. (a cura di), I piani per l'accessibilità. Una sfida per promuovere l'autonomia dei cittadini e valorizzare i luoghi dell'abitare, Gangemi editore 2012, ISBN 884922382 - Mamì A., Progettazione tecnologica della città e paesaggio urbano nella gestione dei rifiuti, Dario Flaccovio editore 2019, ISBN 9788857909479 - Maggi S., Mobilità sostenibile. Muoversi nel XXI secolo, Il Mulino 2020, ISBN 9788815286765 - Ispra Ambiente, Qualità dell'ambiente urbano - XIII Rapporto 2017 - Focus su Mobilità pedonale in città (open access) - https://www.isprambiente.gov.it/it/pubblicazioni/stato-dellambiente/qualita-dellambiente-urbano-xiii-rapporto.-focus-su-mobilita-pedonale-in-citta - Ispra Ambiente, Qualità dell'ambiente urbano- IX Rapporto 2013 - Focus su Acqua e ambiente urbano (open access) - https://www.isprambiente.gov.it/it/pubblicazioni/stato-dellambiente/focus-su-acque-e-ambiente-urbano - Agostinelli M., Diotallevi P., Scoccianti M.Maddalena, Manuale del recupero urbano della città di Jesi, DEI Tipografia del Genio Civile 2002, ISBN 9788849608113 <p>Ulteriore bibliografia di approfondimento sarà indicata alla presentazione del corso e del programma e durante le singole lezioni – Sarà anche fornito materiale didattico dal docente</p> <p>Further references will be given during the presentation of the course and of the program and during the individual lessons - teaching materials will also be provided by the teacher</p>

SYLLABUS

Hrs	Frontal teaching
4	• Building characteristics for environmental sustainability
2	• Climate, vegetation and climate adaptation
4	• Water cycle in settlements
4	• Waste cycle in settlements
4	• Criteria for shaping new settlements (urban/suburban, etc.)
4	- Characteristics of buildings for accessibility, removal of architectural barriers and design for all (principles and elements for the construction of the PEBA)
4	- Characteristics of settlements and buildings for slow mobility (principles and elements for the construction of the PUMS)
4	• Energy from renewable sources: consumption and production in settlements (principles and elements for PAES construction)
4	• Urban safety and emergency management (principles and elements for the construction of the civil protection plan, PEC)
2	• Virtual infrastructures and home automation for services (ICT, IOT)
Hrs	Practice
12	Identification of elements for the construction of a thematic plan (e.g. waste management, sustainable mobility, urban accessibility, etc.)