UNIVERSITÀ DI PAVIA

Anno Accademico 2021/2022

BUILDING TECHNOLOGIES FOR SUSTAINABLE ARCHITECTURE

Enrollment year	2017/2018
Academic year	2021/2022
Regulations	DM270
Academic discipline	ICAR/10 (TECHNICAL ARCHITECTURE)
Department	DEPARTMENT OF CIVIL ENGINEERING AND ARCHITECTURE
Course	
Curriculum	PERCORSO COMUNE
Year of study	5°
Period	2nd semester (07/03/2022 - 17/06/2022)
ECTS	9
Lesson hours	83 lesson hours
Language	English
Activity type	ORAL TEST
Teacher	BERAGHI LUCA (titolare) - 7 ECTS GIACOMETTI VALENTINA - 2 ECTS
Prerequisites	Traditional building construction systems. Distributive characters. Representation of the construction project.
Learning outcomes	The course aims to bring students to the knowledge of building systems for energy saving and exploitation (active and passive) of renewable energy sources. The goal is to provide methodological guide lines for the design and construction aware of the characteristics of the context.
Course contents	The course is divided into lessons and exercises aimed to design using the methods and construction techniques explored during the lectures. The theme of the project will be defined each year. Regulatory framework relating to sustainable design and cultural Introduction to the theme of sustainable design, with a theoretical framework and regulatory environment. Evolution of the design and the

	new demands of energy conservation and savings in the use of non-renewable resources. Dissemination of practical exploitation of renewable resources. The sustainability over the reuse and redevelopment in the building. Active and passive use of solar energy Active use of solar energy. Passive use of solar energy. Active and Passive Systems integration into the building envelope. System interactions with the plant building. Natural Ventilation General principles. Applications of systems to enhance natural ventilation. Architectural integration of ventilation systems. Integrated design solutions with the plant building. Green Systems for roof and facade Extensive green roofs. Intensive green roofs. Green facades. Sustainable solutions and functional destination Sustainability and single-family housing. Sustainability and multi-family housing. Sustainability and hospitals. Sustainability and schools. Sustainability and buildings for offices.
Teaching methods	Lectures (hours/year in lecture theatre): 45 Practical class (hours/year in lecture theatre): 38 Practicals / Workshops (hours/year in lecture theatre): 0
Reccomended or required readings	Texts and projects will be reported according to the different topics and the project that will be assigned every year.
Assessment methods	Discussion of the project and construction choices applied.
Further information	Discussion of the project and construction choices applied.
Sustainable development goals - Agenda 2030	$lbl_legenda_sviluppo_sostenibile