MASTER DEGREE PROGRAMME IN ARCHITECTURE AND SUSTAINABLE DESIGN FOR EXISTING BUILDINGS - ACADEMIC YEARS 2026–2027 / 2027–2028

SYLLABUS & ADMISSION PREREQUISITES

The **Syllabus** specifies the provisions set forth in Article 4 of the Academic Regulations of the Degree Programme in Architecture and Sustainable Design for the Existing Buildings (APSE, LM-4R), approved by the Degree Programme Council on 12 June 2026, which establishes the admission requirements for the Degree Programme and the criteria for fulfilling the necessary curricular requirements. (https://www.unipa.it/dipartimenti/architettura/cds/architetturaeprogettosostenibileperlesistente2495/regolamenti.html)

The assessment of applicants' prior knowledge will focus on the topics specified and updated annually in the **Syllabus. This document sets out the prerequisite knowledge required for each teaching course included in the study plan, as detailed in the individual Course Specification Sheets (***Schede di Trasparenza***).**
(https://www.unipa.it/dipartimenti/architettura/cds/architetturaeprogettosostenibileperlesistente2495/?pagina=pianodistudi)

Detailed Breakdown:

YEAR 1
Prerequisites

ENGLISH LANGUAGE
Students are expected to have an English language proficiency equivalent to B1 level.

ADVANCED MODELLING STUDIO
Students are expected to have a foundational knowledge of descriptive geometry, architectural drawing, metric surveying, and architectural representation at different scales, including floor plans, sections, elevations, construction details, dimensioning systems, and standard graphic conventions.
Basic proficiency in 2D and 3D CAD software is also required, together with the ability to analyze the spatial, structural, functional, and material characteristics of buildings and their urban or landscape contexts.
Students should be able to plan and carry out a basic site survey, produce measured drawings, manage metric and photographic data, understand the fundamentals of digital modelling, and recognize BIM/HBIM processes as tools supporting the analysis, representation, and management of the built heritage.
Advanced prior knowledge of parametric modelling, workflow automation, or specialized information management is not required, as these skills and methodologies will be introduced and developed as part of the Studio.

STRUCTURAL REHABILITATION OF EXISTING BUILDINGS
Students are expected to have a basic knowledge of continuum mechanics, beam bending theory, Saint-Venant's principle, and the structural analysis of statically indeterminate systems.

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ARCHITECTURAL DESIGN AND BUILDING SUSTAINABILITY STUDIO

Students are expected to have advanced proficiency in architectural drawing, including the ability to interpret two-dimensional graphics, technical drawings, and three-dimensional models, as well as a thorough understanding of drawing scales. A sound knowledge of art and architectural history is required, including chronological familiarity with major figures, movements, and developments.
Students should also have a basic understanding of architectural technology, building materials, and construction techniques, together with knowledge of architectural design methodologies and workflows across different scales. Strong written and verbal synthesis and communication skills are also expected.

HISTORY OF CONSTRUCTION TECHNIQUES

Students are expected to have a basic knowledge of history of western architecture, from antiquity to the contemporary period, as well as a foundational understanding of architectural technology.

ECONOMIC EVALUATION OF SUSTAINABLE DESIGN

Students are expected to have a basic knowledge of financial mathematics and real estate valuation methods.

ENERGY EFFICIENCY, LIGHTING, AND ACOUSTIC

Students are expected to have a foundational knowledge of building environmental physics, including units of measurement, heat transfer, thermodynamics, and fundamental of lighting and axcoustic, and well as knowledge of construction systems, building envelope assemblies, and materials.

URBAN DESIGN STUDIO FOR THE ECOLOGICAL CITY

Students are expected to have a sound knowledge of established methods and tools for urban and territorial analysis, including functional and structural analysis and the analysis of socio-economic contexts, as well as a sound understanding of the content and regulatory frameworks of the main statutory and sectoral planning instruments, such as general urban plans, landscape plans, and strategic plans.

URBAN PLANNING LAWS AND PROCEDURES

Students are expected to have a basic knowledge of the sources of administrative law and the constitutional principles governing public administration.

SUSTAINABLE ARCHITECTURAL REHABILITATION TECHNIQUES (Elective)

Students are expected to be familiar with the core concepts covered in previous courses, including Architectural Engineering or Architectural Technology, History of Architecture, Statics, Mechanics of Materials and Structures, and Structural Engineering.

YEAR 2
Prerequisites

ARCHITECTURAL DESIGN STUDIO IN THE URBAN CONTEXT

Students are expected to have an adequate knowledge of the following subjects: History of Architecture and the City; History of Construction Techniques; Architectural Drawing and Surveying, at both basic and advanced levels; Statics; Structural Mechanics; Structural Engineering; Architectural Technology; Architectural Design at the building scale and Urban Planning.
Students should also have a sound understanding of architectural design theory, the critical interpretation of architectural and urban heritage, and traditional and digital representation techniques. Practical skills

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in physical scale model-making and a solid understanding of structural behaviour, particularly of framed structures and load-bearing masonry systems, are also required.

ARCHITECTURAL AND LANDSCAPE RESTORATION STUDIO

Students are expected to have a basic knowledge of architectural surveying, architectural history, building technology, and structural statics.

ARCHITECTURAL ENGINEERING STUDIO FOR EXISTING BUILDINGS REHABILITATION

Students are expected to have practical experience in architectural surveying and technical drawing, as well as prior coursework in architectural history, basic architectural technology, structural mechanics, and structural engineering.

LANDSCAPE ARCHITECTURE (Elective)

Students are expected to be able to observe and describe architectural and urban spaces through drawings, photographs, and written descriptions, as well as to have basic skills in identifying plant species commonly found in architectural and urban open spaces.

PROCEDURAL FEASIBILITY OF PROCUREMENT CONTRACTS AND DESIGN FOR CULTURAL HERITAGE (Elective)

Students are expected to have a basic knowledge of real estate appraisal, project valuation, and the fundamental legal principles governing construction and urban planning.

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