



Study Plan

School: School of Arts
Degree: Integrated Master
Course: Architecture (cód. 209)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2502I	Architecture Design Studio I	Architecture	12	Semester	312
VIS2503I	Introduction to Drawing I	Visual Arts	6	Semester	156
ARQ2504I	Descriptive Geometry I	Architecture	3	Semester	78
ARQ2505I	Construction I	Architecture	3	Semester	78
ARQ2506I	Classic and Middle Age Architecture	Architecture	3	Semester	78
ARQ2507I	Space Organization	Architecture	3	Semester	78

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2508I	Architecture Design Studio II	Architecture	12	Semester	312
VIS2509I	Introduction to Drawing II	Visual Arts	6	Semester	156
ARQ2510I	Descriptive Geometry II	Architecture	3	Semester	78
ARQ2511I	Construction II	Architecture	3	Semester	78
ARQ2512I	Renaissance and Baroque Architecture	Architecture	3	Semester	78
SOC2513I	Anthropology of Space	Anthropology	3	Semester	78

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2514I	Project III	Architecture	12	Semester	312
ARQ2515I	Architectural Drawing I	Architecture	6	Semester	156
ARQ2516I	Digital Representation I	Architecture	3	Semester	78
ARQ2517I	Construction III	Architecture	3	Semester	78
ARQ2518I	History of the XIX Architecture	Architecture	3	Semester	78
GEO2519I	Geography and Territory	Geography	3	Semester	78

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2520I	Architecture Design Studio IV	Architecture	12	Semester	312
ARQ2521I	Architectural Drawing II	Architecture	6	Semester	156
ARQ2522I	Digital Representation II	Architecture	3	Semester	78
ARQ2523I	Construction IV	Architecture	3	Semester	78
ARQ2524I	History of the XX Architecture	Architecture	3	Semester	78
PAO2525I	Landscape Studies	Landscape Arts and Techniques	3	Semester	78

3rd Year - 5th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2526I	Architecture Design Studio V	Architecture	12	Semester	312
ARQ2527I	Architectural Drawing III	Architecture	6	Semester	156
ARQ2528I	Digital Representation III	Architecture	3	Semester	78
ARQ2529I	Structures I	Civil Engineering	3	Semester	78
ARQ2530I	Architecture Theory I	Architecture	3	Semester	78
ARQ2531I	Urban and Territorial Design I	Architecture	3	Semester	78



3rd Year - 6th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2532I	Architecture Design Studio VI	Architecture	12	Semester	312
ARQ2533I	Architectural Drawing IV	Architecture	6	Semester	156
ARQ2534I	Digital Representation IV	Architecture	3	Semester	78
ARQ2535I	Structures II	Civil Engineering	3	Semester	78
ARQ2536I	Architecture Theory II	Architecture	3	Semester	78
ARQ2537I	Urban and Territorial Design II	Architecture	3	Semester	78

4th Year - 7th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2538I	Advanced Architecture Design Studio I	Architecture	12	Semester	312
ARQ2539I	Construction Technology I	Architecture	3	Semester	78
ARQ2540I	Research Methodology I	Architecture	6	Semester	156

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2541I	Introduction To Islamic Architecture And To The Maghrebian Space	Architecture	3	Semester	78
ARQ2542I	Portuguese Architecture	Architecture	3	Semester	78
VIS2543I	Fundamentals of Photography	Visual Arts	3	Semester	78
ARQ2544I	Sustainable Construction	Civil Engineering	6	Semester	156
GEO0772L	Urban Space	Geography	6	Semester	156

4th Year - 8th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2545I	Advanced Architecture Design Studio II	Architecture	12	Semester	312
ARQ2546I	Construction Technology II	Architecture	3	Semester	78
ARQ2547I	Research Methodology II	Architecture	6	Semester	156

Group of Options

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2548I	Travel Notebooks	Architecture	3	Semester	78
ARQ2549I	Intervention Methodologies in architectural Heritage	Architecture	3	Semester	78
FIL2550I	Aesthetics of Architecture	Philosophy	3	Semester	78
ARQ2551I	Yards and Safety	Civil Engineering	6	Semester	156
PAO0782L	Landscape and Countryside	Geography	6	Semester	156

5th Year - 9th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2552I	Advanced Architecture Design Studio III	Architecture	12	Semester	312
ARQ2553I	Construction Technology III	Architecture	3	Semester	78
ARQ11316I	Thesis	Architecture	30	Year	780

5th Year - 10th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
ARQ2555I	Advanced Project IV	Architecture	12	Semester	312
ARQ2556I	Construction Technology IV	Architecture	3	Semester	78



Conditions for obtaining the Degree:

*** TRANSLATE ME: Arquitetura

Para obtenção do grau de licenciado em Cultura Arquitetónica é necessário obter aprovação a 180 ECTS em unidades curriculares obrigatórias, distribuídas da seguinte forma:

1º Ano

1º Semestre:

6 UC Obrigatórias num total de 30 ECTS

2º Semestre

6 UC Obrigatórias num total de 30 ECTS

2º Ano

3º Semestre

6 UC Obrigatórias num total de 30 ECTS

4º Semestre

6 UC Obrigatórias num total de 30 ECTS

3º Ano

5º Semestre

6 UC Obrigatórias num total de 30 ECTS

6º Semestre

6 UC Obrigatórias num total de 30 ECTS

Para obtenção do grau de Mestre em Arquitetura é necessário obter aprovação a 282 ECTS em unidades curriculares obrigatórias e 18 ECTS em unidades curriculares optativas, distribuídas da seguinte forma:

1º Ano

1º Semestre:

6 UC Obrigatórias num total de 30 ECTS

2º Semestre

6 UC Obrigatórias num total de 30 ECTS

2º Ano

3º Semestre

6 UC Obrigatórias num total de 30 ECTS

4º Semestre

6 UC Obrigatórias num total de 30 ECTS

3º Ano

5º Semestre

6 UC Obrigatórias num total de 30 ECTS

6º Semestre

6 UC Obrigatórias num total de 30 ECTS

4º Ano

7º Semestre

3 UC Obrigatórias num total de 21 ECTS

UC Optativas num total de 9 ECTS

8º Semestre

3 UC Obrigatórias num total de 21 ECTS

UC Optativas num total de 9 ECTS

5º Ano

9º Semestre

2 UC Obrigatórias num total de 15 ECTS

Dissertação, num total de 30 ECTS (Anual)

10º Semestre

2 UC Obrigatórias num total de 15 ECTS ***



Program Contents

[Back](#)

Architecture Design Studio I (ARQ2502I)

[Back](#)

Introduction to Drawing I (VIS2503I)

[Back](#)

Descriptive Geometry I (ARQ2504I)

[Back](#)

Construction I (ARQ2505I)

Wood: Constitution; Hygroscopicity and water content; Mechanical resistance; Degradation by physical, chemical and biological agents; Conservation and protection; Normalization.

Cork: types; manufacturing process; main features; conditions of use; normalization.

Raw-earth and other natural materials: types; processing process; main features; conditions of use; normalization.

Natural stone: Classification; Extraction Processes; Mining; Main features; Conditions of use; Normalization.

Ceramic materials: Constitution; Manufacture; Structure; Properties; Types of products; Normalization.

Ferrous and non-ferrous metals: Iron ore; Manufacture of ferrous metals; Notions of solidification; Alloy equilibrium diagrams;

Thermal and mechanical treatments of steel; Ordinary and prestressed reinforcing concrete reinforcement; Notions of fatigue;

Standardization for steels; Most common non-ferrous metals; Aluminum in construction.

[Back](#)

Classic and Middle Age Architecture (ARQ2506I)

[Back](#)

Space Organization (ARQ2507I)

[Back](#)

Architecture Design Studio II (ARQ2508I)

[Back](#)

Introduction to Drawing II (VIS2509I)

[Back](#)

Descriptive Geometry II (ARQ2510I)



[Back](#)

Construction II (ARQ2511I)

Aggregates: Nature; Geometric properties; Physical properties; Chemical properties; Standardization and verification of conformity.
Binders (plasters, limes and cements): Constitution; Types and classes; Manufacture; Mechanism of hydration and hardening; Standardization and verification of conformity.

Mortars: Constitution; Formulation; Properties in the fresh state; Properties in the hardened state; Notions of retraction, fluency and relaxation; Durability; Standardization and verification of conformity.

Concrete: Construction; Binders - type and function of additions; Type and function of adjuvants; Formulation; Properties in the fresh state; Properties in the hardened state; Durability; Standardization and verification of conformity.

Polymeric materials: Notions about the science of polymers, Composition; main properties; Normalization.

Glass: Definition, Composition and Classification.

Paints and varnishes: Definition, Composition and Classification.

[Back](#)

Renaissance and Baroque Architecture (ARQ2512I)

1. Permanence of Classic Architecture Culture - Egypt, Grece and Rome - in Antiquity and Middle Age Territories and Architectures.

2. East Rome Territories and Architectures. Approach to territory and landscape; models and buildings' themes; conception, articulation and formal, spatial and material meaning.

3. Territories and Architectures of West Islam. Approach to territory and landscape; models and buildings' themes; conception, articulation and formal, spatial and material meaning.

4. Romanic Territories and Architectures. Approach to territory and landscape; models and buildings' themes; conception, articulation and formal, spatial and material meaning.

5. Gothic Territories and Architectures. Approach to territory and landscape; models and buildings' themes; conception, articulation and formal, spatial and material meaning.

6. Permanence of Antiquity and Middle Age Architectonic Culture in Humanism Era.

[Back](#)

Anthropology of Space (SOC2513I)

[Back](#)

Project III (ARQ2514I)

[Back](#)

Architectural Drawing I (ARQ2515I)

[Back](#)

Digital Representation I (ARQ2516I)

[Back](#)

Construction III (ARQ2517I)



[Back](#)

History of the XIX Architecture (ARQ2518I)

1. XX Century Architectures. The genesis of Neo-Classicism and Revivalism. Architectonic Culture and Disciplinary Reorganization.
2. Illustration and Romanticism Architectures and Territories.
 - a) Models and buildings' themes; conception, articulation and formal, spatial and material meaning.
 - b) From Historicist and Eclectic Revivalism till Teaching Beaux-Arts in second half of XX Century.
3. Romanticism and Pre-modernity Territories and Architectures.
 - a) Structural rationalization, new structures and new materiality.
 - b) Urban reforms and new urban models. Approach to Anti-industrialization Architectures. From home revivalism to the Arts and Crafts and to movement of Garden-City.
 - c) First answers to social housing issues.
 - d) From Chicago School till Skyscrapers.
 - e) National authenticities and answers to historicisms.
4. Permanence of Architectonic Culture of the eighties, in the XX Century.

[Back](#)

Geography and Territory (GEO2519I)

- Introduction: objectives and specialization of this science.
- Geography's great themes: localization; interaction between man and environment.
- The scale: The multi-scale analysis interest, and the extra benefits of the dialog with planners and architects.
- The geographic space: it's evolution throughout geography's history, since classic Geography.
- The geographic man/nature relationship: the importance of the landscape study since Classic Geography, until the contemporary perspectives. Examples presentation of the regional Geography of Portugal.
- Physical characteristics of the territory: Climatic System; topography and soil occupation effects; identification and characterization of the elemental relief shape with it's morphologic and cartographic expression.
- Acquirement of the Portuguese regional division .
- Urban Space: city concept; “site” and “position”; morphology, urban structure and functions; main problems of the city's development.

[Back](#)

Architecture Design Studio IV (ARQ2520I)



[Back](#)

Architectural Drawing II (ARQ2521I)

Syllabus:

a) History of Architectural Drawing{\}

The role of architectural drawing in art history and architecture, its relation with the singular moments of human history and cross-influences and other areas of knowledge (engineering, science, philosophy, society, ...) exploring, among others, the contributions of authors such as: Vitruvius, Vignola, Serlio, Palladio, Herrera, Scamozzi, Piranesi, Le-Duc, Ledoux, Schinkel, Loos, Housaki, Wright, Le Corbusier, Mies, Bauhaus, Utzon, Smithson, Archigram, Friedman, Shiza Eisenmann, Zumthor .{\}

b) The Analytical Design (Part II){\}

- Functional Analysis;{\}
- Constructive analysis;{\}
- The promenade architecturale;
- The Comping as architectural extension of graphic expression.

AGENDA:{\}

- 1 Functional analysis;{\}
- 2 Constructive analysis,

[Back](#)

Digital Representation II (ARQ2522I)

[Back](#)

Construction IV (ARQ2523I)



[Back](#)

History of the XX Architecture (ARQ2524I)

The 8 tomes of OEuvre Complète of Le Corbusier are the basis to the follow structure:

1. Preamble to XX Century Architectures.
2. Creation of Modernism: from OEuvre Complète 1910-29.
3. Assertion of Modernism: from OEuvre Complète 1910-29.
4. Confirmation of Modernism: from OEuvre Complète 1910-29.
5. Reconfirmation of Modernism: from OEuvre Complète 1929-34.
6. Reorientations and Crisis of Modernism: from OEuvre Complète 1929-34 and 1934-38.
7. Resistance and regionalization of Modernism: from OEuvre Complète 1934-38.
8. Re-consecration of Modernism: from OEuvre Complète 1946-52.
9. Continuity and Disjunction in Modernism: from OEuvre Complète 1952-57.
10. Monuments and Monumentality in Modernism: from OEuvre Complète 1952-57.
11. Extension, Plurality and Critiques to Modernism: from OEuvre Complète 1957-65 and 1965-69.
12. Permanence of Architectonic Culture of XX Century today.

[Back](#)

Landscape Studies (PAO2525I)

1. The concept of landscape: the semantic question, historical evolution and the multidisciplinary approach;
2. Landscape components - socio-economic, cultural, ecological and aesthetic;
3. The importance of open space in the city: public spaces: concepts and evolution. Other typologies of open space.
4. Landscape architecture: concept and fields of intervention.
5. Concepts, values and philosophies of intervention in the landscape: territory, nature, context, site, system, dynamics, sustainability, conservation, authenticity, culture, ecology, aesthetics and ethics; genius loci, continuum (natural and cultural), landscape unit; global landscape;
6. Morphological and biological systems and cultural systems: Ecological Structure and Urban Ecological Structure;
7. Public landscape policies;
8. Landscape planning;
9. Nature conservation.

[Back](#)

Architecture Design Studio V (ARQ2526I)

[Back](#)

Architectural Drawing III (ARQ2527I)

[Back](#)

Digital Representation III (ARQ2528I)



[Back](#)

Structures I (ARQ2529I)

1. Introduction. Gravity acceleration. Mass and weight. Notion of moment of a force. S.I. Units
2. Particle equilibrium. Notion of force. Traction and compression. Diagram of axial forces. Notion of tension and extension. Law of Hooke. Linear and non-linear behavior. Elastic and plastic behavior. Behavior fragile and ductile.
3. Cables and arcs. Stability. Efforts. Analogy between cables and arcs. Stability of domes and vaults.
4. Isostatic and hyperstatic structures: Degrees of freedom and connections to the outside. Balance conditions in space and plane. Types of support and reactions generated.
5. Isostatic trusses. Method of the nodes and method of the sections. Identification of the type of stress to which each bar is subject: traction or compression.
6. Efforts in linear rigid bodies: Transverse stress, Bending and torsor moments. Determination of the reactions in the supports. Sign Convention. Diagrams of stresses (transverse stress and bending moment).

[Back](#)

Architecture Theory I (ARQ2530I)

The programmatic contents arise from the objectives and skills to develop, and suit to semi-annual teaching period, according to the follow structure:

1. Introduction. Architecture Theory.
2. Architecture of Origin of Dwelling.
3. Architecture and Place, Purpose and Address.
4. Architecture and Architecture Project.
5. Architecture and Ethics.
6. Architecture and Corporeity.
7. Conclusion.

[Back](#)

Urban and Territorial Design I (ARQ2531I)

[Back](#)

Architecture Design Studio VI (ARQ2532I)

Subject: Context: the urban core and its interaction with the architectonic set

1. Project tools: sketch, technical drawing by computer, model
 2. Analysis of study cases accordingly to its interaction with a urban core
 3. Urban integration
 4. Representation of Architecture: sketch, technical drawing by computer, photomontage, model, text and oral presentation
- To each programmatic topic corresponds an enounced objective.



[Back](#)

Architectural Drawing IV (ARQ2533I)

Syllabus:

a) History of drawing in Architecture{\}

To learn how to draw a design, an idea.

b) Topics{\}

- Expressiveness, intentionality and personality of architectural design;{\}

- The drawing and project as an interactive process;{\}

- The model concept;{\}

- The architectural drawing and utopian architectures.{\}

Theme: {\}

The theme of this course is organized to explore drawing as a synthesis of architectural ideas.

Drawing as a proposal

1.1 The purposeful design. Flexibility and ambiguity .

1.2 The proposal for the architectural drawing, the solution space.

1.3 Draw to propose. The workshop, the competition, publishing the work.

1.4 The architectural design as an end in itself. The boundaries of art. The utopian architectures. In the Sant'Elia ledoux. From Le Corbusier to Superstudio. Friedman to Hadid.

[Back](#)

Digital Representation IV (ARQ2534I)

[Back](#)

Structures II (ARQ2535I)

1 Beam-column: beam-column subject to horizontal and vertical forces; with recesses and joints at its base. Deformed and bending moments

2 Load path in structures

3 Notions of prestressing in concrete structures

4 Section geometry: Center of gravity, Moment of inertia. Understanding the concepts

5 Instability phenomena. bending column. Slenderness. Critical load. Structural instability problems in beams

6 Material behavior: Mechanical behavior of steel, glass, concrete, natural stone and wood. Characterization of the stiffness of a material through the modulus of elasticity. Notions of strength and stiffness of a structural element

7 Structural security. Actions on building structures. Design criteria: ultimate limit state and usage limit state

8. Structural building systems. Structural design

9. Notions of pre-design: expeditious methods for estimating the dimensions of structural elements



[Back](#)

Architecture Theory II (ARQ2536I)

The programmatic contents arise from the objectives and skills to develop and suit to semi-annual teaching period, according to the follow structure:

1. Architecture Theory.
2. Concepts, Models and Subjects in the Architecture Construction Process.
3. Territory, Place and Location in the Architecture Construction Process.
4. Purpose, Space, Shapes and Atmospheres in the Architecture Construction Process.
5. Memory, Architectonic Culture and other Contaminations in the Architecture Construction Process.
6. Public Dominion and Private Dominion in the Architecture Construction Process.
7. Involvement of instrumental Resources and its Limitations in the Architecture Construction Process.
8. Architecture how to Do.

[Back](#)

Urban and Territorial Design II (ARQ2537I)

[Back](#)

Advanced Architecture Design Studio I (ARQ2538I)

[Back](#)

Construction Technology I (ARQ2539I)

[Back](#)

Research Methodology I (ARQ2540I)

1. Definition of the master final work
2. Strategies of a research theme and a study object
3. Definition of state of the art
4. General methodologies of scientific research and specific for research in architecture
5. General methodologies of scientific writing and specific for writing about architecture

[Back](#)

Introduction To Islamic Architecture And To The Maghrebian Space (ARQ2541I)



[Back](#)

Portuguese Architecture (ARQ2542I)

1. Approach to an Architectonic Culture in Portugal: roots, paths, synthesis and limitations.
2. Approach to an Architectonic Culture of the 20th in Portugal: permanencies and paradigmatic themes.
3. City, Territory and Landscape: models, matrices and fundamental issues.
4. The problematic of the Portuguese House.
5. The Portuguese World Exhibition of 1940.
6. The 1st National Congress of Architecture of 1948: fundamental thesis, political issues and social involvement.
7. The Inquiry to Traditional Architecture and Neo-Realism: reasons, impacts and consequences.
8. Brazil and the Colonial Issue: experimentation, exoticism and new scales.
9. Dwelling issues and the right to Architecture: housing, new cities, urban sets, and territorial organization.
10. Review of Modernity: new cultural dynamics, both economic and urban, the critical regionalism and the critics to regionalism.
11. Permanencies of Portuguese Architectonic Culture of the 20th Century in contemporaneity.

[Back](#)

Fundamentals of Photography (VIS2543I)

[Back](#)

Sustainable Construction (ARQ2544I)

[Back](#)

Urban Space (GEO0772L)

Introduction.{}\\newline

1. Discussion about the concept of city and urbanization process. {}\\newline

2. Origin and historical evolution of the cities.{}\\newline

From the first cities to the Industrial Revolution.{}\\newline

The Industrial Revolution, the development and reorganization of the cities.{}\\newline

3. Urban morphology and structure.{}\\newline

Elements of the urban landscape.{}\\newline

Typology of built spaces.{}\\newline

Typology of not constructed urban spaces.{}\\newline

Urban structure models.{}\\newline

4. Urban functions and urban spaces functions.{}\\newline

Location pattern of the main activities and trends of evolution.{}\\newline

Central places theory{}\\newline

5. Main problems of the urban development.{}\\newline

Degradation of urban life quality{}\\newline

Aging and requalification of historical centers.{}\\newline

The urban expansion and the integration in the landscape.{}\\newline

6. Urban planning instruments

[Back](#)

Advanced Architecture Design Studio II (ARQ2545I)

[Back](#)

Construction Technology II (ARQ2546I)



[Back](#)

Research Methodology II (ARQ2547I)

This curricular unit will have the following programmatic contents:

1. Interaction and multidisciplinary in creation of architecture
2. Resemblances and differences between traditional techniques and contemporary technological languages and its influence into the research process.
3. Resemblances and differences between artistic research and architectonic research.
4. The relevance of new media as field work and tool of development of the artistic project and project in architecture.
5. Argumentative strategies in architecture research
6. The expanded field of architecture
7. Read, understand, interpret architecture: possibilities and models of spatiality
8. Architecture fictions and narratives: the things that tell stories.

[Back](#)

Travel Notebooks (ARQ2548I)

[Back](#)

Intervention Methodologies in architectural Heritage (ARQ2549I)

[Back](#)

Aesthetics of Architecture (FIL2550I)

[Back](#)

Yards and Safety (ARQ2551I)

[Back](#)

Landscape and Countryside (PAO0782L)

[Back](#)

Advanced Architecture Design Studio III (ARQ2552I)

[Back](#)

Construction Technology III (ARQ2553I)

[Back](#)

Thesis (ARQ11316I)

They depend on the research work developed by each student.



[Back](#)

Advanced Project IV (ARQ2555I)

Subject: Synthesis: complexity and critical reflection

1. Project tools: hand drawing, cad drawing, model making
2. Research methods applied to Architectural Design and critical reflection
3. Complex programs as integrated and structured elements of the project
4. Analysis of case-studies which complexity reflects a priori articulation of different knowledge in its conception
5. Materials and its application and adequacy
6. Infrastructure systems and specialties coordination
7. Representation of Architecture: hand design, drawing by computer, photomontage, model making, theoretical issues, oral presentation and final work presentations.

[Back](#)

Construction Technology IV (ARQ2556I)