



I. GENERAL DATA:			
Acronym:	Subject:		Code:
CT1	Construction 1		13398
			Study Plan:
			178 (2015)
Year:	Semester:	Status:	Credits:
3	A-B	Compulsory	9 credits = 5,5 (TA) + 3,5 (PL)
Course Director:		Department:	
Mas Tomás, María de los Ángeles		Architectural constructions	
II. GENERAL DESCRIPTION OF THE SUBJECT:			
<p>The content of the subject reflects the constructive and detailed design of a building. The implementation of technological regulations. Recommendations and ranges of validity. Conception, architectural and constructive detail, commissioning processes, quality control. Pathology, repair and maintenance.</p> <p>Stake out and conception of the foundation. Insulated shoes and basement walls. Foundation elements until reaching the base of the enclosure. Structural systems, supporting walls and portico frames. Vertical communication systems. Stairs. Vertical enclosures of factory work seen and lined with continuous and discontinuous elements, according to their constructive typology. Inclined and flat roofs, ventilated and unventilated and, within these, conventional and inverted.</p> <p>This content is developed simultaneously in terms of theory and practice.</p>			
III. SELECTION AND STRUCTURING OF THE MAIN UNITS:			
<ol style="list-style-type: none"> 1. Didactic unit I. Land and foundations <ol style="list-style-type: none"> 1. Theme 1: Recognition of the terrain 2. Theme 2: Direct foundations. Pressures on the ground and seats. 3. Topic 3: Direct foundations. Design and construction. 4. Topic 4: Reinforced concrete basement and retaining walls. 2. Didactic unit II. Brick work <ol style="list-style-type: none"> 1. Unit 5: Wall systems. Brick work. 2. Unit 6: Calculation of bricks walls. 3. Didactic unit III: Structural systems <ol style="list-style-type: none"> 1. Unit 7: Structural portico system. 2. Unit 8: Unidirectional forged reinforced and prestressed concrete. 3. Unit 9: Design and construction of stairs. 4. Didactic unit IV: Enclosures <ol style="list-style-type: none"> 1. Unit 10: On site concrete enclosures. 2. Unit 11: External enclosures of factory work. Design and typology. 3. Unit 12: Gaps in factory building enclosures. 4. Unit 13: Discontinuous coatings. Stone veneers. 5. Unit 14: Continuous coatings. 5. Didactic unit V: Roofs <ol style="list-style-type: none"> 1. Unit 15: Inclined roofs. 2. Unit 16: Flat roofs without ventilation. 			





I. GENERAL DATA:			
Acronym:	Subject:	Code:	
URB 2	Urbanism 2	13393	
		Study Plan:	
		178 (2015)	
Year:	Semester:	Status:	Credits:
3	A-B	Obligatory	9 credits = 4,6 (TA) + 4,4 (PL)
Course Director:		Department:	
Alonso De-Armiño-Pérez, Luís		Urban Planning	
II. GENERAL DESCRIPTION OF THE SUBJECT:			
<p>The purpose of UR2 is to address the "Analysis and Design of Integrated Residential Sectors". The approach that guides the subject aims to show its operational nature, within the logic of the project as a synthesis process. This approach progressively consolidated as an "urban project" in European culture, identifies the project as a specific discourse within the field of urban planning. Therefore, it is focused on the urban project, its internal logic, and its history.</p> <p>The general theme of the course revolves around the analytical study and the residential areas' project. This field corresponds, in terms of scope, with what has been recently called the intermediate scale of urbanism, which is halfway between the broader territorial discourse and the narrower focus associated with urban design and the urban planning project.</p> <p>The training in this thematic area is specified by the development of a project in consecutive phases or, possibly, several projects, whose content will be adjusted to the traditional content of urban projects: use and study of canonical models, implementation of the definition of the basic geometrical parameters of the buildings (volumes, traces, dimensions...), definition of the system of public spaces and, finally, approximation to the administrative parameters that provide a legal framework for the project. The course is completed with a series of lectures and/or presentations of topics, which include the implementation of principles and ideas that are part of the cultural wealth of the subject.</p>			
III. SELECTION AND STRUCTURING OF THE MAIN UNITS:			
<ol style="list-style-type: none"> 1. 1. TA1. THE URBAN PROJECT- ANALYSIS AND PROJECT OF INTEGRATED RESIDENTIAL AREAS 2. 2. TA2. ROAD TRACKING AND EQUIPMENT-MODEL OF STRUCTURE 3. 3. TA3. BUILDING AND URBAN LAND 4. 4. TS1. ANALYSIS OF PROJECT REFERENCES. CASES STUDIES 			





I. GENERAL INFORMATION:			
Acronym:	Course:	Code:	
HQ2	History of architecture 2	13388	
		Syllabus:	
		178 (2015)	
Academic year:	Semester:	Nature:	Credits:
3rd	A	Compulsory	6 credits = 3 (TA) + 3 (PL)
Coordinator:		Department:	
Palomares Figueres, Maria Teresa		ARCHITECTURAL COMPOSITION	
II. GENERAL OVERVIEW OF THE SUBJECT:			
<p>THE SUBJECT FOCUSES IN A PERIOD BETWEEN THE BEGINNINGS OF THE INDUSTRIAL REVOLUTION AND THE CONTEMPORARY DECADES. THE PROGRAMME IS DEVELOPED IN CHRONOLOGICAL ORDER THROUGH A SUCCESSION OF TOPICS FOCUSED ON THE UNDERSTANDING AND CRITICAL ANALYSIS OF DIFFERENT ARCHITECTURAL TYPES THAT CHARACTERISED MODERNITY</p>			
III. SELECTION AND STRUCTURING OF THE BASIC UNITS:			
<ol style="list-style-type: none"> 1. ENGLISH PICTURESQUISM 2. THE INDUSTRIAL REVOLUTION: THE CITY, ARCHITECTURE AND TECHNIQUE 3. F. SCHINKEL (1781-1841) AND GERMAN ROMANTICISM 4. THE END OF THE CENTURY: BETWEEN CRAFTSMANSHIP, INDUSTRY AND INNOVATION 5. MODERNITY WITHOUT AVANT-GARDE 6. FRANK LLOYD WRIGHT (1869-1959) 7. THE HISTORICAL AVANT-GARDES 8. LUDWIG MIES VAN DER ROHE (1886-1969) 9. FORMS UNDER THE LIGHT: LE CORBUSIER (1887-1966) 10. THE EXPRESSION OF THE MODERN STRUCTURE 11. THE INTERNATIONALISATION OF THE MODERN MOVEMENT 12. ALVAR AALTO AND THE ARCHITECTURE OF NORDIC COUNTRIES 13. THE CRISIS OF MODERNITY AND ALTERNATIVES PRESENT ALTERNATIVES 14. PRESENT ALTERNATIVES 			





I. GENERAL INFORMATION:			
Acronym:	Course:		Code:
FIS2	Physics for Environmental Conditioning		13379
			Syllabus:
			178 (2015)
Academic year:	Semester:	Nature:	Credits:
3rd	A	Basic training	6.0 credits = 3.1 (TA) + 2.9 (PL)
Coordinator:		Department:	
Llopis Reyna, Ana		APPLIED PHYSICS	
II. GENERAL OVERVIEW OF THE SUBJECT:			
<p>The objectives of the subject are the following:</p> <p>Providing architecture students with a basic knowledge of the physical phenomena related to the thermal, acoustic and light conditioning of spaces.</p> <p>Introducing the future architect in the assessment and calculation of the various magnitudes in terms of acoustics, thermal and lighting aspects.</p> <p>Providing criteria for the architectural project to gather the necessary elements to become internally comfortable. The syllabus is divided into three teaching units:</p> <p>Acoustics: The acoustic comfort. Study of the acoustic field. Physiological acoustics Acoustic field in enclosed spaces. Acoustic insulation against air and impact noise.</p> <p>Thermal: Hygrothermal comfort. Heat exchanges. Heat transmission in enclosures. Thermal balances. Thermal inertia. Humid air and vapour diffusion in enclosures. Study and correction of condensation risk.</p> <p>Illumination: Visual comfort. Photometric magnitudes.</p>			
III. SELECTION AND STRUCTURING OF THE BASIC UNITS:			
<ol style="list-style-type: none"> 1. Acoustics <ol style="list-style-type: none"> 1. The acoustic comfort 2. Study of the acoustic field 3. Physiological acoustics 4. Acoustic field in enclosed spaces 5. Acoustic insulation against air noise 6. Acoustic insulation against impact and vibration noise 2. Thermal <ol style="list-style-type: none"> 1. Heat exchanges 2. The hygrothermal problem 3. Heat transmission in enclosures 4. Temperature distribution in enclosures Heat capacity. 5. Humid air and vapour diffusion 6. Steam pressure distribution Risk of condensation 3. Illumination <ol style="list-style-type: none"> 1. Visual comfort 			





I. GENERAL INFORMATION:			
Acronym:	Course:		Code:
STR 1	Structural Design 1		13405
			Syllabus:
			178 (2015)
Academic year:	Semester:	Nature:	Credits:
3rd	A-B	Compulsory	9 credits = 5 (TA) + 4 (PL)
Coordinator:		Department:	
Martínez Boquera, Arturo		CONTINUUM MECHANICS AND THEORY OF STRUCTURES	
II. GENERAL OVERVIEW OF THE SUBJECT:			
<p>1.-Structural model. - Geometry. Materials. Bonds. Actions.</p> <p>2.-Static equilibrium. Equations of static equilibrium. Actions and reactions. Study of the staticity of a structure. Graphic static. Calculation of reactions in isostatic structures.</p> <p>3. Axial bar effort. Concept of effort: axial effort. Balance equation of the section. Deformation of the bar to axial force. Calculation of structures of articulated joints.</p> <p>4.-Bending efforts. Beam theory. Bending stress concept: shear stress and bending moments. Differential balance equation of the section. Calculation of stress diagrams Elastic deformation by bending. Calculation of beam deformation.</p> <p>5.-Axil combined with bending: Porches. Stress and deformation calculation in framed isostatic structures.</p> <p>6.- Stress distribution in elastic regime. Stress distribution in bar sections by axial force, by bending moments, by shear stress and torque. Stress vector. Stress tensor. Main stress points. Mohr's circle. Deformation factor. Deformations tensor. Main deformations. Generalised Hooke's Law. Lamé equations.</p> <p>7.- Stress distribution in plastic regime. Plastic calculation. Elastoplastic analysis of the section: plastic moment, neutral axis, plastic resistant module and shape coefficient.</p> <p>8.-Introduction to bar dimensioning. Characteristic resistance of materials. Ultimate Limit State. Partial safety value. Service Limit State. Permissible deformations. Introduction to wooden, steel and concrete bars sizing.</p> <p>9.-Elastic instability of bars. Buckling. Euler's formula. Critical load. Effective buckling length. Critical stress. Introduction to buckling calculation</p>			
III. SELECTION AND STRUCTURING OF THE BASIC UNITS:			
<p>1. 1.-Structural model. - Geometry. Materials. Bonds. Actions.</p> <p>2. 2.-Static equilibrium.</p> <p>1. Static equilibrium equations. Actions and reactions. Study of the staticity of a structure. Graphic static.</p> <p>3. 3. Axial bar effort.</p> <p>1. Concept of effort: axial effort. Balance equation of the section. Deformation of the bar to axial force. Calculation of</p> <p>2. Calculation of structures of articulated joints.</p>			





I. GENERAL INFORMATION:			
Acronym:	Course:	Code:	
IEL	Electric and Lightning Installations	13401	
		Syllabus:	
		178 (2015)	
Academic year:	Semester:	Nature:	Credits:
3rd	B	Compulsory	6 credits = 3 (TA) + 3 (PL)
Coordinator:		Department:	
Blanca Giménez, Vicente		ARCHITECTURAL CONSTRUCTIONS	
II. GENERAL OVERVIEW OF THE SUBJECT:			
<p>Providing architecture students with a basic knowledge of the physical phenomena related to the electric, thermal, acoustic and light conditioning of spaces as well as the protection systems. Introducing students in the assessment and calculation of the various magnitudes in the abovementioned fields.</p> <p>Providing criteria to gather the necessary elements to make the architectural project totally comfortable. Assessing environmental sustainability criteria so that the energy contributions claimed by the building are friendly to the environment and the territory in which the building is located.</p> <p>Using the building in a compatible manner with the existing energy sources.</p>			
III. SELECTION AND STRUCTURING OF THE BASIC UNITS:			
<ol style="list-style-type: none"> 1. SYSTEMS FOR THE GENERATION, TRANSPORTATION AND DISTRIBUTION OF ELECTRIC ENERGY 2. LOW VOLTAGE NETWORKS 3. ENERGY CONSUMPTION 4. COMPLEMENTARY FACILITIES IN BUILDINGS 5. LIGHT, SIZING AND VISION 6. LIGHTING CALCULATION METHODS 7. LIGHT SOURCES 			





I. GENERAL INFORMATION:			
Acronym:	Course:	Code:	
PR3	Architectural Projects 3 (Design Studio)	13382	
		Syllabus:	
		178 (2015)	
Academic year:	Semester:	Nature:	Credits:
3rd	A-B	Compulsory	15 credits = 7.5 (TA) + 7.5 (PL)
Coordinator:		Department:	
Alapont Ramón, José Luis		ARCHITECTURAL PROJECTS	
II. GENERAL OVERVIEW OF THE SUBJECT:			
<p>The subject addresses the architectural project from its concept, idea and expression and enables, from a few assumptions and definition of objectives, to organise and develop project proposals that meet certain functional, technical, cultural, aesthetic, and relational requirements with the environment, in the context suggested and from the understanding of the architect's social role and project responsibility.</p> <p>It will be necessary to determine the tools and procedures for the representation and expression of said proposals throughout the design process, as well as the presentation of the basic criteria on which an architectural project is based.</p> <p>This subject is taught by the Department of Architectural Projects, whose workshops are responsible for ensuring a structured and complete teaching in the area of knowledge.</p>			
III. SELECTION AND STRUCTURING OF THE BASIC UNITS:			
<ol style="list-style-type: none"> 1. ARCHITECTURAL PROJECT: CONCEPT. IDEA. EXPRESSION. 2. PHYSICAL AND CULTURAL ENVIRONMENT. 3. ACTIVITY AND FUNCTION. 4. SPACE AND SHAPE 5. MATERIALS AND TECHNIQUE. 6. SYSTEMS PROCESSES LANGUAGES. 			

