

## | Urban Design 2 |

# Infrastructure and City:

## Hub and railway fork with GR-30

Course guideline of Urban Design 2, 3rd year of Bachelor's Degree in Architecture, School of Architecture (ETSAG), University of Granada (UGR), Academic Course 2025-2026.

Teaching staff:

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4th lecturer to be determined | subject group: B

Timetable:

3A: groups A (Room T1) and B (Room T8): Monday 10:30-14:30h

3B: groups C (Room T1) and D (Room T2): Tuesday 10:30-14:30h

3C: groups E (Room T1) and F (Room T2): Tuesday 15:30-19:30h

3º A: grupos A (Taller T1) y B (Taller T8): lunes 10:30-14:30h

3º B: grupos C (Taller T1) y D (Taller T2): martes 10:30-14:30h

3º C: grupos E (Taller T1) y F (Taller T2): martes 15:30-19:30h

Academic tutorials would be provided upon request

### | Presentation |

This subject would provide students with theoretical and practical bases to support their professional performance as architect in spatial planning and urban project or design, which would be carried out through the integration of knowledge that architecture student should have about urban studies of different environments and scales.

Methodologically, the subject involves case studies, high-level graphic representation, working in small groups of students, and tutor-student guidance as essential teaching-learning items. Planning and urban design concepts and contents would be shown based on terms such as morphology, typology, infrastructure, public space, composition, ecology, landscape and networks. Criteria and tools for designing housing urban fragments would be provided, focusing mainly on project issues, on the way of distributing land uses and fitting them in reasonable urban forms as fragments conducted by mobility, ecology and functionality rules.

Academic training in the knowledge of social needs, quality of live, urban habitability and basic housing programmes is considered a priority with the aim of achieving knowledge and basic skills to understand and project a sustainable urban environment. With the above, a goal is to close a teaching stage that began in the first semester of the course with the subject Urban Design 1, which would be continued with Urban Design 2 by deepening the knowledge of acquired concepts, complementing as well as completing initial basic contents and skills.

The course has two main knowledge blocks: Theoretical fundamentals (theoretical lessons by teaching staff) and practical workshop (full project to be carried out by students). Course assessment is based on

three work submissions: situation, masterplan and project. The course schedule is outlined at the end of this document.

## **I. Theoretical fundamentals**

They involve a programme of basic lectures to be given by the teaching staff of the subject. They are: (a) face-to-face theoretical lessons for students, which help them for the practical workshop where a project as a practical task must be developed in order to qualify for the subject pass mark; and (b) a non-face-to-face work in which students should both reflect and research on the theoretical contents shown and deepen their relationship with the practical task of the subject (project). The lectures can support the project for sure. Attentive attendance is highly recommended.

### **| Lessons |**

They consist of short lectures by which general and specific arguments would be presented on the weekly theme that can support the project development. Voluntary debate on their contents and moderated by the lecturer would be opened for clarifying them.

It should be emphasised once again that these lectures should be understood as an aid or introduction to several issues regarding the project as practical workshop work. Sometimes, this relationship would be more direct. However, at others it would be indirect, but in any case it does not replace the personal research work the student should carry out to deepen their project and their general training. It is up to the student to make a continuous effort to link theory, research and practice, which would be done under the teaching staff guidance.

As a guideline, see below the (tentatively) programmed lectures grouped by work submissions and theoretical lines (L1, L2, Ln), including a short description on what they mean, and to be given according to the calendar you can find out at the end of this document.

Titled figures of the lectures are available in: <http://www.doyoucity.com/proyectos/tema/323>

## **SITUATION**

### **L1 Urban growth forms**

#### **L1a Territorial stories**

The cartographic representation of the geographical framework of an urban area is a key to understand the specific conditions of both its location and growth process. It is an essential pre-intervention drawing.

#### **L1b Cartography, ideas and land form**

In the first representations of the land where we are going to project, or in the schematization of a project by a simple outline to be explained, the choice of what is relevant to be drawn and what is not to be removed is a key factor.

#### **L1c Urbanization, Parcelling and Building (UPE)**

The form of any urban fragment can be disaggregated into its urbanization elements (e.g. roads, paths, urban infrastructures), parcelling (assigned land) and building (architectural typologies). The summary of the urban form is the layout of its open spaces (e.g. streets, squares, parks).

#### L1d Forms and types of urban growth

UPE layers are closely related to each other to compose the urban form. Density, as an attribute it, can support different types of relationship between these layers. In turn, the urban forms can relate to each other and make the city grow in different ways.

### MASTERPLAN

#### L2 The urban composition theory

##### L2a Simultaneous multiscalarity

When we project in an urban area we need to work simultaneously at every scale: territorial, intermediate and architectural.

##### L2b Geometries on the land

Strategic, compositional and environmental considerations are provided about the Masterplan as an instrument for implementation, integration and coherence of urban elements and land uses in the territory.

##### L2c Layers

The territory we inhabit can be read as a succession of layers that have been sedimented one on top of the other throughout history and that provide it with the required complexity for living. New projects are new added layers and their desired complexity would be supported in the best of cases by new systems of layers that can be projected independently.

#### L3 Mobility

##### L3a Architecture for movement

The speed of contemporary connection has changed the grain and form of the city, although we sometimes forget that to keep or modify the space-time can be the aim of a project.

##### L3b 5-10-30'

Distances are no longer measured in length but in time. There are patterns and standards of time that make the city friendlier and more liveable.

##### L3c Transport oriented development (TOD)

It consists of designing intermediate scale urban forms and project strategies around public transport nodes considering both pedestrian accessibility and environmental comfort.

#### L4 Connection VS Relation

##### L4a Connection-disconnection

Layouts have a greater durability than architectural monuments and therefore require careful design. Connection is not the same as relation. The latter is a qualification of the former. Even disconnection often facilitates relation.

##### L4b Structures and Substructures

Large-scale planning required the modulation and structuring of projects by scales. The higher the speeds, the more the infrastructures became the architecture of the urban grids.

## PROJECT

### L5 The architecture of the land

#### L5a Re-composition

Urban-architectural project strategies consisting of the recovery and revitalisation of obsolete architecture and/or urban areas based on compositional criteria.

#### L5b Friendly infrastructures

Within the city, projects though for very different speeds coexist and have a great impact on their size. Despite the above, they have to share the same physical space.

### L6 The nearby city

#### L6a Privately Owned Public Spaces (POPs)

Reference to the POPs as a strategy of urban intervention or renovation focused on public space as a relational element.

#### L6b Elements of housing composition

Miscellany of some of the best housing projects throughout the history of urban planning and architecture.

### L7 Housing fragments

#### L7a Intermediate scale projects

Through some paradigmatic projects and using comparative analyses, different types and sizes of intermediate composition by UPE layers will be shown.

#### L7b Territorial scale projects

Sometimes architecture takes on territorial scale roles. This requires control over all scales as well as over speeds and integration of the parameters set by the landscape, the infrastructures and the architecture itself so that the result to be plausible.

## II. Practical workshop

The class hours following the lectures would be devoted to workshop work on the subject project by steps, from the territorial to the architectural scale, which can be developed by small group of 2-3 students. In the workshop, the work on paper and working models would be advanced and discussed face-to-face. Important: Works displayed on the computer will not be supervised. The supervision sessions may be carried out collectively in class.

The subject is designed as a continuous assessment, so that every project step submission would be presented in class in order to be evaluated and according to the dates set in the calendar. This condition is mandatory to pass the subject. Once each work have been shown in class and evaluated by the teaching staff, students will keep it until the end of the course, so that it will be available in case it is required again.

The proposed face-to-face supervision of the work by the teaching staff in the workshop is of absolute importance for the student learning. Thus, the student's continuous commitment to this dynamic will be equally important in order to pass the subject.

For the follow-up of the work in the workshop it is also quite important that students bring with them plenty of drawn or printed materials (e.g. plans, drawings, outlines) and/or working models. No supervision will be made to the work if students do not bring enough work material with them.

## | Project |

The subject work is divided into three steps or work submissions (Situation, Masterplan and Project), which form part of a full project to be developed from the first day of the course to the last. The aim is for the student to go through all the steps and scales involved, following a complete exercise of professional activity. Each submission is associated with a piece of work by the student, which must suit the proposed statement in each case, as well as be presented and submitted according to the dates set out in the calendar. The project topic is introduced as follows.

### THE PROJECT SITES

The proposed intervention may be located in one of the following two sites: one (peripheral) is located to the northwest of the Granada city. Specifically, within the (flexible) spatial area delimited by the GR-30 highway also called Granada Ring Road, the boroughs Maracena and Bobadilla, and the railway fork by the two train lines that Granada currently has: the Moreda-Granada medium-distance line to the north (which would disappear in the future) and the Antequera-Granada high-speed line to the west. In addition, this project site includes urban and suburban fragments, patches of agricultural landscape, industrial and heritage sites, semi-urbanized areas, infrastructure, etc.

Alternatively, the other project site (central) is located where both railway lines converge: the Andaluces Ave Railway Station within the city center. Right now when ADIF intends to build a modern train central station (after the failed Rafael Moneo's train station project) while at the same time doubling the track connecting to Antequera (and from there to the rest of the country) to improve service frequency.

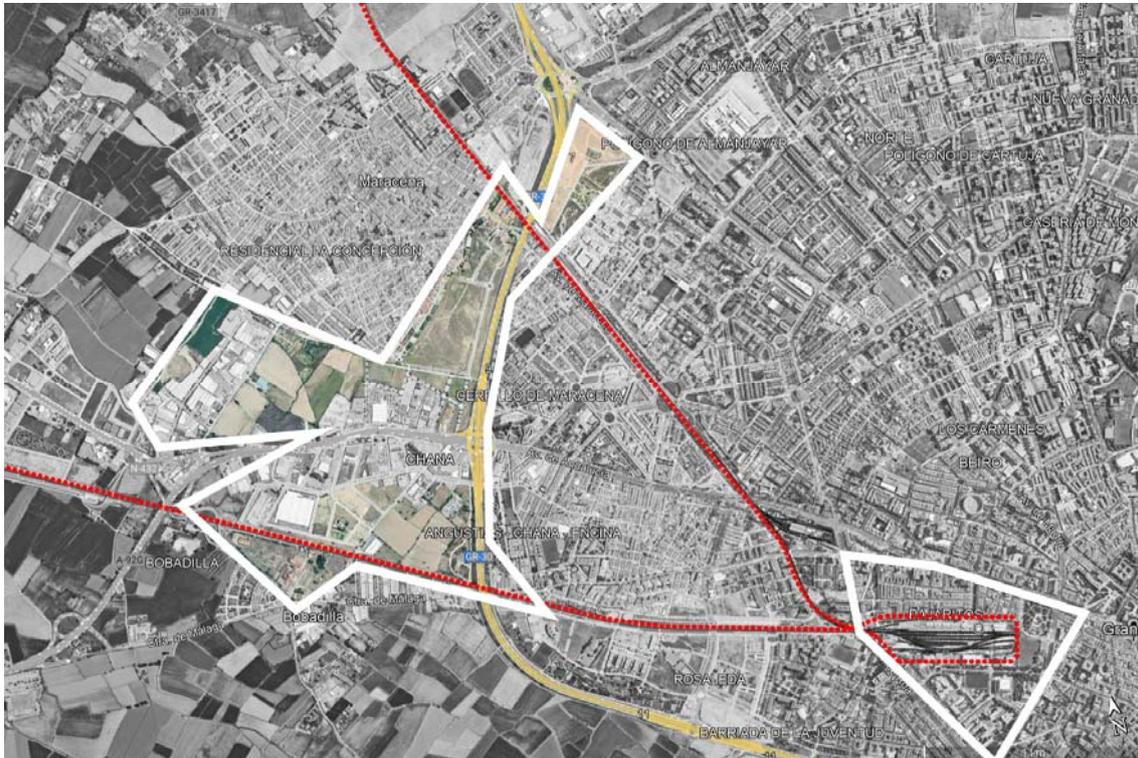
The peripheral location is an inconvenient and unfinished space, flanked by major infrastructure (e.g., the GR-30 highway, the Badajoz-Granada main road towards the A-92G highway, the two railway lines, the metro hangars, the future suburban train) and the backs of industrial areas such as El Florío and La Paz. Likewise, this location is also tensioned by its proximity to the boroughs Granada (La Chana, Cerrillo de Maracena, Polígono de Almanjáy, Málaga Road, Andalucía Ave), Maracena and Bobadilla.

However, at the same time this peripheral location is rich in traces, "interesting distances", and elements of urban opportunity and metropolitan connection: cutouts of agricultural plots including paths and streams like large suburban gardens; the stunning views to Sierra Nevada Mountains; the highway is a barrier but rises over the ground level allowing passing it through; linear parks along its edge; the tree-lined promenade that will run parallel to the high-speed rail tracks and will connect the new Azucarera de San Isidro university campus with the central railway station. Also, the boulevard Federico García Lorca Ave, crossed twice by the metro, ends facing the highway at a large urban void, but also a metropolitan vestibular place which turns descending towards the train and (double) metro lines insinuating itself at the other side of the GR-30 highway. In any case, this location is a contemporary space.

In the central location surrounding the Andaluces Ave railway station, both the problems and the opportunities may be different: residual spaces (parking areas, ADIF's abandoned lots, remains of railway infrastructure), railway tracks acting as urban barrier, segregated green infrastructure, hard access and intermodality, rear location to other important traces (e.g., to Camino de Ronda road). Nevertheless, it

is a place that enjoys great centrality and representativeness, as well as impressive views (e.g., to Alhambra and Sierra Nevada).

The challenge of the work to be done throughout the course lies in how to design this double northwest-central location by urban project. A satellite image of both project sites is shown below.



### **SOME POSSIBLE STRATEGIC LINES OF INTERVENTION**

In the above context, some possible key or strategic lines to develop the full project work may be the following:

1. To resolve the urban transition between the boroughs Granada and Maracena taking into account opportunities such as the "downward slope" scenario of the vestibular void at the end of the Federico Garcia Lorca Ave, the elevation of the GR-30 highway over the ground level, the double-level metro line, and the linear park along the southeast edge of Maracena.
2. Network and enhance the existing landscape fragments, as a sort of metropolis gardens, through new residential fronts located perhaps on some of their edges (urban, industrial, infrastructural) as new facades of renovated architecture that can beautify these voids while taking advantage of the stunning views, as well as of other heritage and territorial elements or narratives.
3. New suburban collective housing developments connected to the future 3 km green corridor between the new Azucarera university campus and the central railway station, which will run parallel to the high-speed railway line. There is also a proposal for a suburban train with several stops (neighbourhood hubs?) to improve public transport connections: Azucarera univ campus-Chana neighbourhood-central railway station/Fuentenueva univ campus.

4. Scattered interventions at key points/areas, such as intersections of different infrastructure: highway, railway, road, metro/suburban train, waterways, green infrastructure. For example: (a) the intersection of the Málaga road with the GR-30 highway and the Antequera-Granada high-speed railway line; (b) the end of the Federico Garcia Lorca Ave with the GR-30 highway, the Moreda-Granada medium-distance railway line, and the metro (double) line; or (c) the Andaluces Ave railway central station with the river Beiro and other green open spaces, and the metro line (and a future added bus station?). These are complex sites with residual spaces and accessibility issues that could act as barriers at the urban and metropolitan level. However, they may be understood as landmark spaces, urban gateways, or potential intermodal hubs.

5. Urban growth by residential developments of hybrid typologies, between landscape spaces and the rear of industrial areas (compatible with housing), providing the latter with pedestrian traces by removing road excess in favour of possible green links between "islands" of agricultural use and other places of interest (heritage, service).

6. Proposals for the Andaluces' Hub, where the central railway station, the Fuentenueva university campus, the metro, the river Beiro, and other elements of urban green infrastructure converge in close proximity (a possible superblock driven from intermodal transport?). Reconsider the currently divided neighbourhoods by railway tracks, the current level of the railway tracks (better below?), the integration of the planned suburban and medium-distance bus station, the empty parking areas and other existing residual spaces; even potential project extensions to vacant lots next to the railway lines a little further west. And, what about a new suburban train taking advantage of railway corridors and other important urban traces (e.g., under Camino de Ronda road)?

7. Other different strategic lines, or a combination of the above.

Each group of students will choose one of the above strategic lines to develop their course project. However, the teaching staff may assign these lines to the students.

### **| Work submissions |**

Work submissions will be made in person at the workshop and on the dates scheduled in the course timetable. The work submissions will also be submitted digitally on the course website (<http://www.doyoucity.com>) when requested by the teaching staff and throughout the submission day or the next day. Important: If you do not submit your work on the schedule date and in the way indicated, you will not be able to pass the subject without applying for the ordinary exam call (June) and/or the extraordinary one (July). You can only try to improve your subject mark by applying for the ordinary exam call (June).

As a cartographic basis for supporting work drawings, each group of students would look for updated open source digital files (e.g., DWG, PDF or similar). It is also possible to work by redrawing on available historical or updated satellite images of the project site (e.g., by using Google Earth). Ask the teaching staff for further information.

Links to web sites of interest:

- <https://www.juntadeandalucia.es/medioambiente/portal/acceso-rediam>
- <https://portalrediam.cica.es/VisorRediam>
- <https://www.juntadeandalucia.es/institutodeestadisticaycartografia/bcadescaas/>

Work (as full project) submissions are defined below. Please note that the work scales shown are tentative. In other words, each group of students would choose the scale that best suits its work.

### **1. Situation**

The aim of this first project step is to get to know and interpret the project site by drawing a "window" (A1 format) including this site as well as the territorial context (as geographical framework) in which it is located. This territorial window should be represented and oriented according to what best explains the information.

The goal is to draw a specific "story" of the chosen territory window rather than the draw of everything we can find there. To this end, it would be useful to draw some of the natural and/or anthropic elements that best characterise the territory window (e.g. traces, forms, typologies, thresholds, topographies, relationships, links, barriers, continuities, vectors, etc.) and omitting the less relevant information. Decisions about what to draw, or not to draw, would be a key factor to take into account.

Work submission: An A1 format as a "window" of the project site territory according to the chosen strategic line. Window orientation should be decided by each student group (e.g., Sc = 1/10.000).

### **2. Masterplan**

It consists of a strategic proposal for the overall planning of the territorial window chosen in the previous project step (Situation) including decisions on three major and essential information layers: 1. Traces (roads, pedestrian paths, other type of infrastructure); 2. Open/green spaces; and 3. New areas to be urbanized by residential land use (or already urbanized areas to be transformed), including some singular architectures as urban facilities, so that the outcome can be an integrated, differentiated, and coherent whole. Each layer will have its own shape and definition according with the chosen scale of representation.

Work submission: An A1 format with a plan drawing of the Masterplan proposal (e.g., Sc = 1/10.000).

### **3. Project**

The first thing to be done is a detailed drawing of the project site. Subsequently, an intermediate scale intervention proposal must be drawn up according to the chosen strategic line and supported by the Masterplan. This would include: The definition of new traces and their connections to the existing ones, or the modification of the latter (e.g. pedestrian paths, roads, public transport lines), a housing programme with urban facilities, the definition of the building typologies used, and the land urbanization by differentiation of projected materials. The compositional criteria for the residential design as a whole will be of great importance.

Work submission:

(a) An A1 format with enough drawings enough to define the proposal, e.g. plans, facades, sections, diagrams, location and relationship between proposal and Masterplan, housing typology definition, sketches. Plan drawing of the proposal at e.g. Sc = 1/2.000. Typological definition at e.g., Sc = 1/1.000 or 1/500. And

(b) A physical model of size, scale, and materiality to be decided by each group of students according to the nature of the proposal.

## | Evaluation |

Assessment criteria:

- Suitability of the work to both submission definition and timetable.
- Quality of the work (design, drawings).

Marks (as a percentage of the overall score):

Situation: 20%

Masterplan: 30%

Project: 50%

TOTAL: 100%

Important note: To pass the subject without applying for the ordinary exam call (June) and/or the extraordinary one (July) it is mandatory to submit both the Masterplan and the Project as scheduled as well as to pass them. The latter means a minimum score of 5 out of 10.

**| Timetable |**

| Month    | Week | Day (M-T)           | Program  | Submissions |
|----------|------|---------------------|--|-------------|
| February | 1    | 23-24               | Subject introduction / site project / L1           |             |
| March    | 2    | 02-03               | L2 / Project progress workshop                     |             |
|          | 3    | 09-10               | L3 / Project progress workshop                     |             |
|          | 4    | 16-17               | Presentation and submission of the Situation step  | X           |
|          | 5    | 23-24               | L4 / Project progress workshop                     |             |
|          | 6    | 30(n/t)-<br>31(n/t) | -  |             |
| April    | 7    | 06(n/t)-07          | Project progress workshop                          |             |
|          | 8    | 13-14               | L5 / Project progress workshop                     |             |
|          | 9    | 20-21               | Presentation and submission of the Masterplan step | X           |
|          | 10   | 27-28               | L6 / Project progress workshop                     |             |
| May      | 11   | 4-5                 | L7 / Project progress workshop                     |             |
|          | 12   | 11-12               | Project progress workshop                          |             |
|          | 13   | 18-19               | Project progress workshop                          |             |
|          | 14   | 25-26               | Presentation and submission of the Project step    | X           |

Notes: n/t = no teaching day. The timetable may change depending on the progress of the course.

Ordinary exam call (11 June 2025, 10:30h, room T1): It consists of the re-elaboration of the not passed work throughout the course.

Extraordinary exam call (9 July 2025, 10:30h, room T1): It consists of the re-elaboration of the not passed work in the ordinary exam call (June).