

ALTERNATIVE PRACTICES: URBAN INFRASTRUCTURES

**Bachelor in Architectural Studies BAS SEP-2023 APUI-
AS.5.M.A**

Area Architecture and Design

Number of sessions: 30

Academic year: 23-24

Degree course: FIFTH

Number of credits: 6.0

Semester: 1^o

Category: COMPULSORY

Language: English

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Cem S. Kayatekin holds a Bachelor of Architecture from Auburn University, a Master of Architecture from Cornell University, and a Ph.D. in Architecture from the University of Oregon, completed under the tutelage of Howard Davis. His research interests are focused on the overlaps of urban equity, ecology, and resilience. He is also the co-founder of Blue Dot Studio, an architecture and urbanism firm anchored primarily in Sri Lanka.

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SUBJECT DESCRIPTION

How can we rewire Madrid? This is the question at the heart of this Alternative Practices course. Specifically, we will focus on two topics: (1) blue-green-grey infrastructure as a stormwater management tool, and (2) positive energy districts. With these topics, we will seek to rewire the water and electricity networks of the city in order to achieve lower impact, higher efficiency, and more resilient outcomes. Given the complexity of the matter, these proposals will be developed within a group format (four students per group ideally), with approximately half of the groups focusing on the first topic, and the other half (approximately) on the second topic.

Through this course, you will learn how to approach and navigate urban-scale projects, landscape and built-world dynamics, urban planning regulations and ordinances, urban-systems evaluations, and environmental impact reports.

LEARNING OBJECTIVES

(Per Ministerial Decree EDU/2075/2010, 29 of July; and the official accreditation request for the Bachelor in Architectural Studies, July 2015; see BOCYL, 14 March 2018: p. 10477-10481)

2.1 BASIC AND GENERAL OBJECTIVES

- CB1: Students have demonstrated knowledge and an understanding of a given area of study, building upon the foundation of secondary education, supported by advanced texts, and including aspects that engage the latest advances in their area of study.
- CB2: Students know how to apply their knowledge professionally to their work or vocation and possess the competencies that are often demonstrated through elaboration and defense of arguments and the resolution of problems within their area of study.
- CB3: Students can gather and interpret relevant facts (usually within their area of study) in order to make judgments that include reflection on relevant social, scientific, and ethical topics.
- CB4: Students can transmit information, ideas, problems, and solutions to both specialized and non-specialized audiences.
- CB5: Students have developed the necessary learning skills to continue their studies with a high degree of autonomy.
- CG2: Knowledge of the role of the fine arts as a factor that can influence the quality of architectural creation.
- CG4: An understanding of the fundamental issues in structural design, construction, and engineering as related to building projects, as well as the techniques used to address these issues.
- CG5: Knowledge of the issues related to building physics, technologies, and programmatic uses, in order to create buildings that provide internal comfort and protection from the elements.
- CG6: Knowledge of the industries, organizations, regulations, and procedures needed in order to transform projects into buildings, and to integrate drawings into the planning process.
- CG7: An understanding of the relationship between people and buildings, and between buildings and their contexts, as well as the need to relate buildings and adjacent spaces to needs and to the human scale.

2.2 SPECIFIC COMPETENCIES

- CE12: Ability to devise, calculate, design and implement foundation solutions, and to integrate them into buildings and urban assemblies (W).
- CE17: Capacity to develop, calculate, design, and execute building structures, and to integrate them into buildings and urban complexes (W).
- CE18: Capacity to develop, calculate, design, and execute interior partitions, carpentry, stairs and other finished work, and to integrate them into buildings and urban complexes (W).
- CE19: Capacity to develop, calculate, design, and execute enclosure systems, roofs/coverings, and other structural work, and to integrate them into buildings and urban complexes (W).
- CE34: Ability to eliminate architectural barriers (W).
- CE35: Ability to resolve passive environmental control, including thermal and acoustic insulation, climate control, energy efficiency, and natural lighting (W).
- CE36: Ability to categorize built and urban heritage and plan conservation efforts.
- CE37: Ability to conceive, execute and develop projects at the level of sketches, schematic design, design development, and construction documentation (W).

- CE39: Ability to conceive, execute and develop a plan of construction management (W)
- CE40: Ability to develop functional programming for buildings and urban spaces.
- CE41: Ability to intervene in, preserve, restore, and rehabilitate built heritage sites (W).
- CE43: Ability to develop projects for safety, evacuation, and building protection (W).
- CE44: Ability to develop projects for public works (W).
- CE48: Adequate knowledge of the general theories of form, composition, and architectural typologies.
- CE50: Adequate knowledge of the methods of study of processes of symbolization, practical functions, and ergonomics.
- CE51: Adequate knowledge of social needs, quality of life, habitability, and the basic programmatic requirements for housing.
- CE52: Adequate knowledge of ecology, sustainability, and the principles of conservation of energy and environmental resources.
- CE55: Adequate knowledge of the relationship between cultural patterns and the social responsibilities of the architect.
- CE60: Knowledge of feasibility studies and the supervision and coordination of integrated projects.

2.3 TRANSVERSE COMPETENCIES OF THE UNIVERSITY

- CT1: Ability to identify the main characteristics of cultural identities that characterize the contemporary world through the knowledge of central ideological currents.
- CT2: Ability to exercise professional behavior in accordance with constitutional principles and ethical values of the respective profession.
- CT3: Manage unforeseen situations with the capacity to respond to changes within organizations.
- CT4: Use disciplinary knowledge to analyze and evaluate current situations.
- CT5: Integrate oneself into interdisciplinary and multicultural teams to achieve common goals in a context of diversity.
- CT6: Work actively at in an international context.

TEACHING METHODOLOGY

IE University teaching method is defined by its collaborative, active, and applied nature. Students actively participate in the whole process to build their knowledge and sharpen their skills. Professor's main role is to lead and guide students to achieve the learning objectives of the course. This is done by engaging in a diverse range of teaching techniques and different types of learning activities such as the following:

Learning Activity	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	13.33 %	20.0 hours
Discussions	6.67 %	10.0 hours
Exercises in class, Asynchronous sessions, Field Work	13.33 %	20.0 hours
Group work	33.33 %	50.0 hours

Individual studying	33.33 %	50.0 hours
TOTAL	100.0 %	150.0 hours

PROGRAM

SESSIONS 1 - 3 (LIVE IN-PERSON)

Course introduction and presentation of the concepts of blue-green infrastructure and positive energy districts.

GRASPING THE DISCOURSE, GRASPING THE SYSTEM

The students will engage in simultaneous research into the two discourses being studied (blue-green infrastructures and positive energy districts), and into the existing urban systems being rewired (Madrid's existing stormwater and energy infrastructure). For these sessions, the students will present the first findings on these two parallel avenues of inquiry.

The discourse research portion of this phase will be based on, but should not be limited to the articles provided by instructor (consult course documents for this).

SESSIONS 4 - 5 (LIVE IN-PERSON)

GRASPING THE DISCOURSE, GRASPING THE SYSTEM

The students will engage in simultaneous research into the two discourses being studied (blue-green infrastructures and positive energy districts), and into the existing urban systems being rewired (Madrid's existing stormwater and energy infrastructure). For these sessions, the students will present the first findings on these two parallel avenues of inquiry.

The discourse research portion of this phase will be based on, but should not be limited to the articles provided by instructor (consult course documents for this).

SESSIONS 6 - 8 (LIVE IN-PERSON)

KNOWING THE DISCOURSE, KNOWING THE SYSTEM

The students will extend upon their discourse (blue-green infrastructures and positive energy districts) and existing urban systems (Madrid's existing stormwater and energy systems) research. Once more for these sessions, the students will present the first findings on these two parallel avenues of inquiry.

Students will also begin developing thumbnail sketches of proposal ideas for rewiring Madrid's systems (stormwater and energy systems).

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

The discourse research portion of this phase will be based on, but should not be limited to the articles provided by instructor (consult course documents for this).

SESSIONS 9 - 11 (LIVE IN-PERSON)

MAPPING THE DISCOURSE, MAPPING THE SYSTEM

The students will extend upon their discourse (blue-green infrastructures and positive energy districts) and existing urban systems (Madrid's existing stormwater and energy systems) research, and also begin to visualize/map the discourse and the systems being investigated. Once more for these sessions, the students will present the first findings on these two parallel avenues of inquiry.

Students will continue developing thumbnail sketches of proposal ideas for rewiring Madrid's systems (stormwater and energy systems).

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

The discourse research portion of this phase will be based on, but should not be limited to the articles provided by instructor (consult course documents for this).

SESSIONS 12 - 14 (LIVE IN-PERSON)

REWIRING THE SYSTEM, FIRST DRAFTS.

Groups will begin to develop robust proposals of how the urban systems (Madrid stormwater and energy systems) can be rewired in accordance with the state of the relevant discourse (blue-green infrastructure and positive-energy districts).

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

In tandem, students will continue the research / mapping / visualization work products from before, with stronger emphasis on the mapping / visualization components.

SESSIONS 15 - 16 (LIVE IN-PERSON)

REWIRING THE SYSTEM, SECOND DRAFTS.

Groups will continue to develop proposals (now in second iteration) of how the urban systems (Madrid stormwater and energy systems) can be rewired in accordance with the state of the relevant discourse (blue-green infrastructure and positive-energy districts).

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

As earlier, students will continue the research / mapping / visualization work products from before, with stronger emphasis on the mapping / visualization components.

SESSIONS 17 - 19 (LIVE IN-PERSON)

REWIRING THE SYSTEM, THIRD DRAFTS.

Groups will continue to develop proposals (now in third iteration) of how the urban systems (Madrid stormwater and energy systems) can be rewired in accordance with the state of the relevant discourse (blue-green infrastructure and positive-energy districts).

Students will begin to develop a coherent visual language for the proposal at this stage.

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

Students will continue the research / mapping / visualization work products from before, as needed.

SESSIONS 20 - 22 (LIVE IN-PERSON)

REWIRING THE SYSTEM, FOURTH DRAFTS.

Groups will continue to develop proposals (now in fourth iteration) of how the urban systems (Madrid stormwater and energy systems) can be rewired in accordance with the state of the relevant discourse (blue-green infrastructure and positive-energy districts).

Students will continue to develop a coherent visual language for the proposal at this stage.

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

Students will continue the research / mapping / visualization work products from before, as needed.

SESSIONS 23 - 25 (LIVE IN-PERSON)

REWIRING THE SYSTEM, FINAL DRAFTS.

Groups will finalize proposals of how the urban systems (Madrid stormwater and energy systems) can be rewired in accordance with the state of the relevant discourse (blue-green infrastructure and positive-energy districts).

Students will finalize a coherent visual language for the proposal at this stage.

Students will begin compiling all work products into a coherent presentation, and begin practice (audio as well as visual) presentations.

NOTE: proposals must be cross-scalar, covering at least five scales (i.e., the building cluster, the street, the block, the block cluster, the neighborhood, the borough, the city, etc.)

SESSIONS 26 - 27 (LIVE IN-PERSON)

FINAL VERSIONS, TRIAL RUNS.

Students will finalize the compilation all work products into a coherent presentation, and finalize audio/visual structure of presentations.

Groups must conduct two practice presentations in these sessions (10 minutes maximum per group).

SESSIONS 28 - 30 (LIVE IN-PERSON)

FINAL PRESENTATIONS

The students will present their projects to a jury of reviewers.

EVALUATION CRITERIA

(Per Ministerial Decree EDU/2075/2010, 29 of July; and the official accreditation request for the Bachelor in Architectural Studies, July 2015; see BOCYL, 14 March 2018: p. 10477-10481)

This course will involve the following evaluation methods:

- SE1: Attendance and Active Participation.
- SE2: Submission and/or Presentation of Group Projects.
- SE3: Submission and/or Presentation of Individual Projects.
- SE4: Evaluation of Group Exercises.
- SE5: Evaluation of Individual Exercises.

Grading Standards

According to IE University policies, the students will be evaluated in a scale from 1 to 10. The standards of each grade are described below:

1, 2, 3, 4: Not passing level of work -- significant areas needing improvement and/or not enough deliverables to properly represent the project strategy.

5: Passing level of work with a few areas needing critical improvement, and/or the need for developing minimum required deliverables to properly represent the project strategy.

6: Fair level of work with some areas needing critical improvement.

7: Consistent, solid work during the whole semester. Solid grade, student producing what is expected at that year level.

8: Advanced level of work for what can be expected at that year level.

9: Exceptional level of work, within the standards of a slightly higher year level. Starting on a 9, the student could receive a MH as a recognition of an exceptional work.

10: Beyond exceptional level of work, within the standards of a much higher year level.

criteria	percentage	Learning Objectives	Comments
Iterative Design Process (includes research)	60 %		
Final Presentation	40 %		

RE-SIT / RE-TAKE POLICY

Grading of students in the extraordinary enrollments will follow these guidelines:

The maximum grade that a student may achieve in second enrollment (average of the first and second part) is an 8.

65% of the student's grade in second enrollment is determined by what they received in first enrollment. That is, if, for example, a student received a 1.0 in first enrollment, he/she would need a 14.1 in second enrollment, just to reach a passing grade of 5. This is, of course, impossible. The cut-off is 2.3: a student could still, theoretically, pass design studio with a 2.3 in first enrollment, and a 10.0 on the material delivered for second enrollment, but he/she will never exceed and 8.0 in the final grade.

Grading standards will be the same applied to the ordinary period available and fully explained in the syllabus of the course.

BEHAVIOR RULES

Please, check the University's Code of Conduct [here](#). The Program Director may provide further indications.

ATTENDANCE POLICY

Please, check the University's Attendance Policy [here](#). The Program Director may provide further indications.

ETHICAL POLICY

Please, check the University's Ethics Code [here](#). The Program Director may provide further indications.