PREREQUISITES
The student should have completed and passed the previous course of Design Studio, or be registered for the third enrollment. Students may not enroll in more than one Design Studio course per semester.

SUBJECT DESCRIPTION
Design Studio 4 (Program)
Design Studio 4 examines the notion of “Program” in architectural design. It builds on DS3 ideas on how the making of architecture should account for the multiple “Experiences” in the built environment and how designing itself is an experience of delving into different tools of creative and systematic research. DS4 will further these tools by complexifying the conditions of the project in terms of site, program, and restriction. In simpler terms, while DS3 was an introduction to how to research for and strategies for your project, DS4 will be the arena to develop these skills in more complex urban settings.

The word “Program” has its etymological root in the Greek word “Prógramma,” which derives from “Prógrapho” (I announce writing or drawing). Therefore, an architecture program is a proclamation of one’s own idea, expressed in concepts, diagrams, texts, and images. However, how to reach this proclamation imposes multiple questions: what does a program for an architectural/urban project entail? How to deduce a program? What research and creative techniques help propose a program? How to negotiate, challenge, and add to the existing and adjoining site programs? What does it mean to add a program to a city? These questions challenge the conventional understanding of a program as a ‘list of spaces’ that they need to translate into buildings. These questions also push for examining three elements: 2) conditions of the programs, 2) conditions and restrictions relating to the site, and 3) requirements of materiality sustainability understanding in both architectural and urban settings.
To unpack these elements, the Studio will examine the relationship between university campuses and their hosting cities with a special focus on the future of architectural learning spaces. We will work on studying the current conditions of learning and teaching spaces at IE School of Architecture in Madrid and Segovia through visits, discussions, interviews, and observations. After that, we will work on extending our school into a new campus in Madrid where the educational program that we proposed will need to negotiate and complement the existing urban program. We will add a collection of educational activities to the site in which our architecture will be incorporated. Additional ingredients will be added during the process in a continuous conversation between students and professors to develop a comprehensive program at different scales. We will aim for a campus that responds to the multiple relationships between the University with the city. Finally, the project will also pay special attention to the use of materials and the operational and embodied carbon footprint of the building.

The assignment for the course will be a combinatory system that will allow the student to manage various programs throughout the semester that may be freely combined in space and time. Thus, the whole semester will be focused on the idea that architecture can be understood as a system of relationships of multiple parts. This open system allows free mutation and uses infinite ways of materializing individual acts of creation. From this point of view, professors will guide the students through a journey between a selected set of actions commonly contained within urban constructions and the relationships that assemble them together.

The Studio has the following Phases: 1- Strategies: Spaces of Learning, 2- Site: Existing and Future Programs, and 3- Project: The City and University.

The first workshop (Strategies), we will visit and analyze several cases of educational spaces in Madrid and Segovia, we will be working on examining the Macro and Micro levels of these case studies' programs: from the classroom to the city. In the second workshop (Site): we will build on our studies to develop a program to our site in Madrid. Develop here means understanding and negotiating the current condition of the site. In workshop 3 (Project), we will work towards materializing our idea into a communicable architectural project.

In this Studio, the main learning objectives concern how to discuss and work with ideas related to site conditions, development of programs, and sustainable materials and spaces. Some of the challenges that the Studio will respond to are:

Programming: how to compose a coherent program from existing needs and conditions.
Architectural Researching: how to conduct systematic ethnographic and observational studies for an architectural project
Urban Studies: how to design and respond to urban complexity in city centers.

At the end of the Studio, students will be able to understand and challenge design approaches that are based on case studies' research and in-depth site analysis of existing conditions and activities; they will be able to translate these rules within a given context, culture, program, and scale. The Studio relies principally on manual model making, hand-drawing, and diagramming.

This course is a design studio led by instructors. It consists of 60 IE sessions or 90 hours of classes. You will have classes twice a week with two or three sessions per class. Check the program regularly to see our schedule.

**OBJECTIVES AND SKILLS**

2. OBJECTIVES AND COMPETENCIES

Per the Decree EDU/2075/2010, 29 of July

**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.

CB5: 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

Per the Decree EDU/2075/2010, 29 of July

PREPARATORY MODULE
(W: Workshop Format)

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).

DESIGN MODULE
(W: Workshop Format)

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.

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.

2.3-SPECIFIC OBJECTIVES AND SKILLS

In this course we will emphasize:

CE34: Ability to eliminate architectural barriers (W).

CE40: Ability to develop functional programming for buildings and urban spaces.

CE43: Ability to develop projects for safety, evacuation, and building protection (W).

CE51: Adequate knowledge of social needs, quality of life, habitability, and basic programmatic requirements.

At the end of Studio 4, students will be able to understand and challenge design approaches that are based on ethnographic research and in-depth site analysis of existing conditions and activities, and they will be able to translate these rules within a given context, culture, program, and scale. In specific, the objectives and skills of this Studio are:

Strategy: Ability to design and devise a strategy from site analysis in an urban context.

Research: Adequate knowledge of tools to narrate and critique an existing condition, program, and function.

Connection: Ability to move between programs and spaces between the site program and the design strategy.

METHODOLOGY
The Studio will be fed by lectures, readings, collecting and processing of information and by the fundamental active participation, debate and criticism of the students. We strongly encourage students to work in studio outside of regular class hours, making the space their own, and understanding it as their real work place. Working in studio in this manner produces unexpected discussions and a multiplication of constructive criticism from disguised professors: your own classmates. The Studio will have two key moments, the midterm review and the final review, wherein students will present their projects in a well-assembled presentation (both graphically as well as verbally). Both presentations (midterm and final) will be evaluated in terms of craft, clarity (graphic and verbal) and achievement of the goals proposed by the course. The subject Design Studio 4 is composed of 6 ECTS, which are a combination of teaching time (equivalent to 60 teaching sessions) and autonomous work time. The basic attitudes required to follow the method are participation (attendance and engagement), proactive collaboration (sharing knowledge as a single team), passionate work (dedication, motivation) and efficiency (order, punctuality, concentration, consistency). The course methodology is based around a series of varied tools, exercises and methods that endorse and reinforce the main project. This multimodality approach will provide the student with a rich array of thinking processes and creative tools to be deployed during the course at different stages of the design process. Students will present their work to the rest of the class through pin ups and “crits”. Each student will be expected to develop and perfect his/her set of project tools and representation methods. The unit will encourage the appropriation and reinvention of representation techniques typically used in other disciplines. The final communication summary will be particularly valued. Projects will be followed mainly on an individual basis by the tutor, through group and individual tutorials. The main purpose of this methodology is to engage the students in a group conversation showing how the different stages of design are articulated, what reasons lie behind the decisions taken, how problematic issues can be creatively overcame, how to develop a critical-theoretical apparatus and how to observe site and social conditions.

<table>
<thead>
<tr>
<th>Teaching methodology</th>
<th>Weighting</th>
<th>Estimated time a student should dedicate to prepare for and participate in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lectures</td>
<td>2.67 %</td>
<td>6 hours</td>
</tr>
<tr>
<td>Discussions</td>
<td>9.78 %</td>
<td>22 hours</td>
</tr>
<tr>
<td>Exercises</td>
<td>49.78 %</td>
<td>112 hours</td>
</tr>
<tr>
<td>Group work</td>
<td>8.0 %</td>
<td>18 hours</td>
</tr>
<tr>
<td>Other individual studying</td>
<td>29.78 %</td>
<td>67 hours</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0 %</td>
<td>225 hours</td>
</tr>
</tbody>
</table>

PROGRAM

SESSION 1 (LIVE IN-PERSON)
DESIGN STUDIO 4 INTRODUCTION
Lecture: Overall scope of DS4 and Workshop 1 (Strategies)

SESSIONS 2 - 4 (LIVE IN-PERSON)
Workshop I: Presentations by students _ Case studies (groups).
Pinup: First workshop (Strategies) collective review

SESSIONS 5 - 7 (LIVE IN-PERSON)
Workshop I: Trip I
First trip to visit the site and case studies of buildings with educational programs

**SESSIONS 8 - 10 (LIVE IN-PERSON)**
Workshop I: Trip II + Workshop II Introduction (Site)
Second trip to visit case studies of buildings with educational programs

**SESSIONS 11 - 13 (LIVE IN-PERSON)**
Workshop I: Strategies (collages).  
Pinup: First workshop (Spaces of Learning) Final Review

**SESSIONS 14 - 16 (LIVE IN-PERSON)**
Workshop II: Initial Programs  
Pin up

**SESSIONS 17 - 19 (LIVE IN-PERSON)**
Workshop II: Developing and reviewing the physical model of the context in 1:250  
Desk Crit

**SESSIONS 20 - 22 (LIVE IN-PERSON)**
Workshop II: Two radical proposals (inserted in the model of the context).  
Pinup: Second workshop (site) review I

**SESSIONS 23 - 25 (LIVE IN-PERSON)**
Workshop II: Two atmospheric/environmental sections (cross and long).  
Pinup: Second workshop (site) review II

**SESSIONS 26 - 28 (LIVE IN-PERSON)**
Mid term Review

**SESSIONS 29 - 31 (LIVE IN-PERSON)**
Workshop III: Introduction I  
1 session: Lecture: Programmatic Collisions + 2 sessions: Desk_crit

**SESSIONS 32 - 34 (LIVE IN-PERSON)**
Workshop III: Introduction II  
1 session: Lecture: Sections as Landscape + 2 sessions: Desk_crit

**SESSIONS 35 - 36 (LIVE IN-PERSON)**

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27th October 2022
Workshop III: Program development and communication: Speed “dating” day!
Pinup

SESSIONS 37 - 39 (LIVE IN-PERSON)
Workshop III: Work in plan and sections (1:100)
Desk Crit

SESSIONS 40 - 42 (LIVE IN-PERSON)
Workshop III: Work in plan and sections (1:100)
Desk Crit

SESSIONS 43 - 45 (LIVE IN-PERSON)
Workshop III: Ground floor plan (GF) detailed with context (1:100)
Desk crit

SESSIONS 46 - 48 (LIVE IN-PERSON)
Workshop III: Ground floor plan (GF) detailed with context (1:100)
Pinup

SESSIONS 49 - 51 (LIVE IN-PERSON)
Workshop III: Ground floor plan (GF) detailed with context (1:100)
Desk crit

SESSIONS 52 - 54 (LIVE IN-PERSON)
Workshop III: Work in plan and sections + GF (1:100)+ LAYOUT
Desk crit

SESSIONS 55 - 57 (LIVE IN-PERSON)
Workshop III: Work in plan and sections + GF (1:100)+ LAYOUT (competition A1 boards)
Desk crit

SESSIONS 58 - 60 (LIVE IN-PERSON)
Final Review

BIBLIOGRAPHY
Recommended

EVALUATION CRITERIA
6.1 General Observations

Student progress is monitored via regular individual and group tutorials, and pin-ups. There will be two critiques (midterm and final reviews) in which students are expected to produce a coherent visual and verbal presentation of their design proposal and to communicate and debate their work with others.

Grading will be based on the completion of periodic assignments, attendance and punctuality, student-instructor dialogue, participation in class-wide critiques and discussion, and the individual development of the design process. All these factors are equally important in the final evaluation and neither will take precedence over the others.

6.1.1 Midterm Evaluation

In Midterm Evaluation you will show the result of workshop 1 and 2 and an initial strategy of workshop 3.

After the midterm review, students will be evaluated based on two items:

PROCESS, which will encompass work habits, production, development, and ability to evaluate and incorporate the received criticism.

DELIVERABLES, which will evaluate the relation quality-quantity of the production presented, considering the work of the semester and with special emphasis on the work presented for the midterm review.

Failing to present, verbally as well as graphically, or an absence during the midterm review will translate into the deduction of 2 (two) points from the final grade.

After the Midterm Review the students will receive a non-binding grade as an indication of her or his progress at that point of the semester. This grade will be based on the following scale:

Check: the student has reached the goals established for the first part of the semester.
Check +: the student has surpassed the goals established for the first part of the semester.
Check -: the student has not met the minimum goals established for the first part of the semester.

This grade will not determine the final grade and should be taken only as an indication of progress.

6.1.2 Final Evaluation

In the Final Evaluation you will show the result of your work for Workshop 3, you will also show a summary of workshop 1 and 2.

For the Final Review the students will receive a grade on a scale from 0 to 10, with a minimum passing grade of 5.0.

After the Final review, and considering the totality of the work developed over the course of the semester, students will be evaluated on two areas

PROCESS, as described above, applied to the entire semester.
DELIVERABLES, considering the production in quality and quantity of the deliverables in daily basis, pin-ups, exercises, and reviews and with special emphasis in the production realized for the final review.

Failure to participate in the final review, in terms of deliverables or in terms of attendance, will automatically translate into failing the whole course with a grade not higher than 4.5.

No late submissions will be accepted.

The minimum attendance allowed will be that established in the IE University regulations: those students that do not attend at least 70% of all sessions will fail the course with a 0.0 and will proceed directly to third enrollment.

Students that have failed the subject in first enrollment pass to the second enrollment, except those who do not meet the minimum attendance percentage. For those attending the second extraordinary exam period, the exam will have two parts: a corrected and expanded presentation of the project as developed in the first enrollment period, and a design exercise to be administered in Segovia. The maximum grade a student may achieve in second enrollment is 8.

6.1.3 Grading Standards

According to IE University policies, the students will be evaluated in a scale from 1 to 10. The standards of each grades 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 of studio. Starting on a 9, the student could (according to the necessary consensus among professors) receive a MH as a recognition of an exceptional work.
10: Beyond exceptional level of work, within the standards of a much higher level of studio.

6.2 DESIGN STUDIO 1 EVALUATION CRITERIA

Grading in this course is based on three criteria:

Concept - One's ability to clearly express a solid idea through the design of architectural space.
Process - One's ability to follow through with meaningful design process, where architectural expression is developed through a series of consistent iterations.
Craft - One's ability to clearly and precisely express design intent through graphic representation (correct drawing technique, diagraming, layout of information) and physical modelling.

In order to be able to present a project in the final review, students must present in the midterm review as well. Failure to present a project in the midreview will prevent the student from presenting in the final review.

6.3 SECOND ENROLLMENT

Students that have failed the subject in first enrollment pass to the second enrollment. Those who do not meet the minimum attendance percentage according to IE University policies will not have the option of attending the second enrollment and will automatically pass to the third enrollment.

For those attending the second extraordinary exam period, the exam will have two parts: Part I that will be a presentation of the project originally produced during the ordinary period with a further development of those areas that were underdeveloped for the final review, and Part II which consists on a design exercise to be presented and administered the day of the exam. The students will have to pass Part I to be able to pass to Part II. Those students that do not pass Part I will go to third enrollment.

Part I and Part II should obtain a passing grade for the student to be able to pass the second enrollment. The minimum grade to pass the second enrollment is 5:00.

The second enrollment conditions and requirements will be explained by the professors in a specific document handed out to the students that fail the class. The students attending the second enrollment have the right of requesting office hours to follow the progress made in the improvement of their projects.

THE EXAM IS LIVE IN-PERSON AND IT WILL TAKE PLACE IN THE CAMPUS WHERE THE STUDENTS TOOK THE COURSE, SEGOVIA OR MADRID.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Percentage</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>40 %</td>
<td>encompasses work habits, attendance and participation, production, development, and ability to evaluate and incorporate the received criticism.</td>
</tr>
<tr>
<td>Concept grade</td>
<td>30 %</td>
<td>encompasses the production in quality and quantity of the deliverables in daily basis, pin-ups, exercises, and reviews</td>
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</table>
**PROFESSOR BIO**

Professor: **WESAM AL ASALI**  
E-mail: walasali@faculty.ie.edu

**WESAM AL ASALI**

Wesam is an architect, educator and researcher with experience in building crafts, structural design, and local building materials. His work explores and emphasizes the role of culture and society in rethinking how cities are grown and consumed in the context of climate challenges. Focusing on the Middle East and Latin America, Wesam’s practice engages with the role of “Scarcity” as a heuristic process rooted in the situated production and inhabitation of the built environment. He received my PhD in 2021 from the University of Cambridge, where he worked on design strategies for thin-tile vaults for low-carbon ceiling systems. Wesam was the Global Fund fellow at Princeton University in 2021-2022, where he worked on his manuscript “Cultures of Making,” which examines selected case studies of vernacular crafts and construction from the Middle East. Wesam is the co-founder of IWlab, his architectural practice, and CERCAA, his school of building crafts for architects and architecture students in Valencia, Spain.

**OTHER INFORMATION**