DESIGN ENTREPRENEURSHIP WORKSHOP 3

Bachelor in Architectural Studies BAS SEP-2023 DEW3-AS.4.M.A

Area Architecture and Design

Number of sessions: 21

Academic year: 23-24

Degree course: FOURTH

Number of credits: 3.0

Semester: 2º

Category: COMPULSORY

Language: English

Professor: **WESAM AL ASALI**

E-mail: walasali@faculty.ie.edu

Wesam Al Asali is an architect, educator, researcher, and enthusiast for combining digital and manual fabrication technologies with local building crafts and natural materials. His work spans construction history, building technology, and craft studies to explore the role of culture and society in rethinking architectural practice in the context of climate challenges.

Wesam received his Ph.D. in 2021 from the University of Cambridge, where he worked on design strategies for thin-tile vaults for low-carbon ceiling systems. Following his Ph.D. completion, Wesam was the 2021-2022 Global Fung fellow at Princeton University before joining IE School of Architecture and Design. His research received the RIBA President's Awards for Research in Architecture (2021) and the Salje Medal for Best Doctoral Research in Arts and Humanities at Clare Hall, Cambridge University (2022). He received research funds and commissions from the Arab Council for the Social Sciences, Instituto de Tecnología Cerámica, and Princeton University. His current projects include the use of natural materials in Spanish building crafts, scarcity-driven informal and vernacular architecture in the Middle East, and the relationship between domestic spaces and food production in Syria during the crisis.

Wesam is a design and innovation lead at his co-founded architectural practice (IWlab) and founder of the social enterprise (CERCAA), a center for learning and innovation in building crafts and natural materials in Spain-Valencia. His practice engages with heritage knowledge for contemporary environmental design.

-

Alessandro?Beghini is a Senior Associate Principal with Skidmore, Owings & Merrill LLP, in San Francisco.?As a Structural Engineer, Alessandro works to develop the structural design for individual projects and project groups. Coordinating with the architectural and building services teams, he incorporates structural engineering design concepts within project requirements. Alessandro is also responsible for conducting research in the field of optimal structural topologies and development of innovative methodologies for structural analysis. He also served as an Adjunct Professor at Northwestern University and has co-authored several technical publications on a variety of structural engineering topics. As a Structural Engineer, Alessandro advances the field of engineering through his project work, leadership in the SOM's research initiatives, and ongoing collaborations with academic institutions and celebrated contemporary artists.

His artist collaborators include Janet Echelman, Jamie Carpenter, and Inigo Manglano-Ovalle.

Alessandro's wide-ranging structural engineering portfolio includes the world's tallest buildings, and award-winning domestic projects like the United States Federal Courthouse in Los Angeles. He is an essential contributor to SOM Climate Action Group projects, including the Urban Sequoia–a prototype for carbon-negative construction that was presented at COP26 and COP27, and Bio-brick–an algae-based construction material developed by SOM and Prometheus Materials.

Office Hours

Office hours will be on request. Please contact at:

walasali@faculty.ie.edu

SUBJECT DESCRIPTION

The Design Entrepreneurship sequence is intended to give students a series of immersive studio- based experiences with leading professionals, in order to explore how the role of the architect can be redefined, and architecture practice transformed from a reactive posture, to an active posture, in which architects initiate proposals rather than waiting to be engaged by forces external to the discipline. Additionally, by engaging professionals not affiliated with the University, these workshops will provide students with exposure to other approaches to the design process, as well as to the varied international realities of practice.

DESIGN ENTREPRENEURSHIP WORKSHOP 2024 SERIES

Reversible: Folding, Skins, and Transformable Architecture

As one of the most ancient innovations, textiles have played an essential role in the development of human history. From cloths enveloping our bodies to membrane sheltering our dwellings, the notion of skins becomes a cross-scale concept that both materializes and interacts with our essence of living. The entrepreneurship workshops will explore the possible futures of textiles in our built and worn environments, as shelters from heatwave, as folded shells, and as double skins for our individual and collective bodies. Reversible workshops will focus on the intersection between engineering and art, the understanding of textile and tensile structures and techniques, and the innovative approaches in materials and crafts.

DESIGN ENTREPRENEURSHIP WORKSHOP 3_2024
Porf. Alessandro Beghini

Tensiles: Deployable Structures for Heat Waves in Madrid

With climate change and the increasing frequency of heatwaves in Spanish cities, there is a need for design and architecture to reassess the nature of public spaces and role of design structural engineering in accommodating these spaces to the changes of seasons and temperatures. In this workshop, students will delve into the concept of mobile and lightweight architecture that can contract and expand seasonally, adapting to climate variations, particularly the high temperatures experienced in the summer. Collaborating with the structural designer and engineer Alessandro Beghini, students will utilize engineering tools and creative thinking to craft a tensile structure covering for the open public space at IE University's Segovia Campus. The workshop will encompass both manual and digital tools for designing and calculating tensile structures, exploring development and construction methods, along with specific structural details. Students will develop their proposals and present them through drawings and models.

This workshop is coordinated by Prof. Wesam Al Asali with IE Visitng Proffessor Prof. Alessandro?Beghini

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)

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.
- CG8: Knowledge of the role of entrepreneurship and management in the execution of projects in architecture and design.
- CG9: An understanding of the various employment possibilities available to the architect, and the application of the disciplinary tools of architecture to various related disciplines.

SPECIFIC COMPETENCIES

- CE38: Ability to conceive, execute, and develop urban projects (W).
- 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

- 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 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	6.67 %	5.0 hours
Discussions	16.0 %	12.0 hours
Exercises in class, Asynchronous sessions, Field Work	33.33 %	25.0 hours
Group work	40.0 %	30.0 hours
Individual studying	4.0 %	3.0 hours
TOTAL	100.0 %	75.0 hours

PROGRAM

SESSION 1 (LIVE IN-PERSON)

Introductory Lecture followed by Site walk

SESSION 2 (LIVE IN-PERSON)

Lecture on Form Finding of lightweight structures

SESSION 3 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSION 4 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSION 5 (LIVE IN-PERSON)

Lecture on relevant architectural precedents for the workshop

SESSION 6 (LIVE IN-PERSON)

Lecture on drawing documentation and details

SESSION 7 (LIVE IN-PERSON)

Group experimentation with nets and ropes

SESSIONS 8 - 9 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each group

SESSIONS 10 - 11 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSIONS 12 - 13 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSIONS 14 - 15 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSIONS 16 - 17 (LIVE IN-PERSON)

Design development by each group. Alessandro works in turn with each

SESSIONS 18 - 19 (LIVE IN-PERSON)

Installation of exhibition at IE Creative Center

SESSIONS 20 - 21 (LIVE IN-PERSON)

Exhibition and Reviews

EVALUATION CRITERIA

GENERAL 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 on 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 incomplete or insufficient deliverables to evaluate student properly.
- 5: Minimum acceptable passing level of work with several areas needing critical improvement, and/or the further development of deliverables.
- 6: Fair level of work with some areas needing improvement.
- 7: Consistent, solid work during the whole semester. The 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, highly advanced for the student's year level. Starting at the grade of 9, the student may (according to the necessary consensus among professors) receive "Honors / Matricula de Honor/Honors" 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
Final Group Presentation	50 %		
Process and Intermediate Deliverables	30 %		
Individual Work	10 %		
Class Participation	10 %		

RE-SIT / RE-TAKE POLICY

Students that have failed the subject in first enrollment during the ordinary period will pass to the second enrollment. Those who do not meet the minimum attendance percentage according to IE University policies during the ordinary period 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 will consist of the presentation of the project originally produced during the ordinary period with a further development of those areas that were underdeveloped for the final review. The professor in charge of the course will explain to the student the areas to improve in order to obtain a passing grade.
- Part II will consist of 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. the design excersise take place in person and at the campus where the student enrolled during the ordinary period.

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 5.0. The maximum grade that a student may achieve in second enrollment is an 8.

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.

CLASS ATTENDANCE

For in-person programs, students should attend their live, in-person sessions on campus.

According to IE University policy, attendance is mandatory; bachelor's and master's degree students are expected to attend 100% of the sessions as attendance is an essential component of IE´s learning methodology. For this reason, we monitor attendance closely and have established a policy for exceptional reasons for absence.

This policy applies to any type of session as planned in the syllabus: live in-person, asynchronous, and live online. **Students attending less than 80% of sessions will receive a FAIL for the course.** For bachelor-degree programs, this fail will apply to the ordinary and extraordinary calls of the current academic year.

ETHICAL POLICY

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