

DEPARTMENT OF ARCHITECTURE AND DESIGN;  
FACULTY OF ENGINEERING AND ARCHITECTURE  
AMERICAN UNIVERSITY OF BEIRUT

**ARCH 40: Beyond Green: Seeking Sustainability in the Built Environment**

J. Matthew Thomas, Office: 307, Ext: 3675, Email: jt13@aub.edu.lb

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Tuesday, 2:00 – 5:00pm, room 301

**Course Description**

The past decade has seen an incredible evolution of architecture and design adapting to the issue of climate change. Greening ourselves and the cities we live in has been widely discussed in the media, while legitimized in regional building codes and masterplans. From *greenwashed* advertising to zero-emission standards, the design environment has shifted while our tools and techniques (the ones that got us into this situation to begin with) are just beginning to evolve. The *Beyond Green* seminar will expand our notions of the term “sustainability” in the built environment while questioning its integration in the design and building process. The course structure will guide students to expose the underlying processes, multi-scalar systems, and diverse forces of socio-cultural and political flows that impact the lens of sustainable design. In addition to addressing contemporary and historical green building techniques and technologies, students in this course will critically question the green building industry by expanding the conversation of sustainability and the tools available to the architect.

**Course Objectives**

Through the use of weekly readings, course Moodle, lectures, precedent studies, and a semester long research project students will have been introduced to the following:

- Students will explore the definition of sustainability within the greater green building movement, uncovering its multiple fields of understanding, use and abuse.
- Students will be well versed in the realm of sustainability, green building, environmental movements and the forces driving its evolution
- Students will gain an expanded knowledge of tools, frameworks and technologies from the past, present and future used in sustainability.
- Students will be able to critically analyze current sustainable development practices, in terms of environmental (land, air, natural resources), socio-cultural (programming, agency) and economic (policy, scale, time)
- Students will build a contemporary archive of sustainable projects from the past and present.
- Students will be better prepared in executing architecture by expanding their tools to include a greater framework of sustainability on multiple scales, functions and stakeholders.

**Learning Outcomes**

As climate change impacts cities, their populations, and the natural resources they depend on, it is the architect that must be able to discern the valuable strategies and techniques required to combat this crisis. This course will take a greater scope in exploring the field of sustainability, by addressing tools of the past and present, as well as uncovering new techniques and strategies developing on the fringe of the profession; all the more relevant as we redefine our very roles within the built environment. The demands of a sustainable world requires designers who are at once planners,

urban designers and architects, while also being well versed in policy, social/cultural trends and the effects of globalization and mass communication.

Throughout the semester, a working hypothesis for sustainability in the built environment will be developed both individually and within the class as a whole. By exploring a number of philosophical positions on the topic of sustainability, we will ground them in local design, construction and policy. By localizing this hypothesis in the city of Beirut, and specifically through the element of water, we will begin to understand how the various scales and frameworks of this city and its dependency on water can demonstrate the complexity of urban sustainability.

Water will be used as an illustration in greater systems thinking. Water is worked in a number of ways, manipulated through architecture and urbanism, as much as through its natural transformations (liquid, gas and solid). By grounding our investigation in water, we will utilize the newly gained tools and frameworks of sustainability to demonstrate new understandings of its meaning within the built environment.

This course will be taught in seminar fashion with weekly meetings arranged for both presentation and discussion time. Students will be expected to complete the weekly readings so that conducive conversation and questioning can commence. Students are expected to participate in the course Moodle for additional sharing and conversation. As a class, we will learn from each other, by introducing precedent studies for consideration, as well as working in a teamwork collaborations that help us question each other, stimulate conversation and discover new frameworks for sustainability.

### **Course Requirements**

This class will be conducted within class meetings consisting of both lecture and class discussion. Alternate conversation and posting will be available through a web based platform. Students will be expected to have weekly readings complete before coming to class and to be able to participate in class conversation. Class discussions and/or assignments may be grouped into teams for diversifying communication, collaboration and learning strategies.

Creating a working hypothesis for sustainability through the lens of water within the built environment of Beirut will be the guiding thread throughout the semester. From day one, students will localize their stance on the term sustainability within the city of Beirut through various scales and frameworks introduced in class. It is expected that by semesters end, the class as a whole will have a working “document” of sustainability within Beirut’s built environment.

#### Preliminary Exercise:

*The Individual:* At the start of the term, students are asked to track their relationship with water in the city. Through photography, video, drawing or other forms of media, students will document their interaction with water through the course of a week. Recognizing the smallest drop to the vast Mediterranean Sea, students will present a “site construct” of the many scales, programs as well as the infrastructures that control it.

#### Midterm Presentations:

*The Community:* At midpoint in the semester, students or student teams will select an image from their preliminary exercise to be developed. Inspired by the image, students will develop a greater understanding of how water is operating. Students should select images that pertain to the following: an infrastructural project, an architectural/citywide application or policy, or a local/cultural adaptation (student suggestions will also be considered).

Students will utilize the tools and frameworks presented in the course thus far to document the understanding of water in the city of Beirut. An expanded explanation of the assignment will be provided at the commencement of the course.

#### Final Presentations:

*The Region:* In rounding out this course, students or student teams will expand upon their previous two investigations by applying their hypothesis of sustainability by again looking at water, this time within the greater region of the Fertile Crescent (and beyond). As student teams develop their expanded vision, they will be asked to come together as a class in presenting a final document (pamphlet, magazine, book, website, etc) demonstrating their multidimensional thinking of sustainability in the built environment utilizing water as a unifying illustration. An expanded explanation of the final will be provided at the commencement of the course.

#### Project Precedent:

Throughout the entire semester each student will be expected to introduce a project precedent that is of their interest, involvement, or of their home country or city. The student will be expected to prepare a 15 minute presentation with visuals to stimulate conversation and dialog within relevancy of the course objectives.

### **Grading**

Grading will be based on students input and participation in course meetings and assignments. For student teams, grading will be based on participation and individual contribution. The following requirements will determine the final grade for this course:

- Class discussion/respondent, on-line contribution and participation 20%
- Site Precedent Visualization and Presentation 10%
- Preliminary Photographic Exercise (The Individual) 10%
- Midterm (The Community) 30%
- Final (The Region) 30%

*Any student at the risk of failure will be notified at midterms.*

#### Attendance:

Attendance is mandatory for all class meetings. Students are expected to attend all student presentations and critiques. You must contact the professor PRIOR to meeting if you are expecting to miss class due to emergency, illness or related event.

#### Plagiarism and Cheating:

The University considers plagiarism (any attempt by a student to represent the work of another as his or her own) and other forms of cheating serious offenses and enforces serious penalties when they occur. In producing a professional body of research, you are required to acknowledge and cite sources for ALL material referenced in your paper or presentation.

#### Office Hours:

To schedule meetings regarding administrative issues outside of class time, you may contact me at: jt13@aub.edu.lb. When office hours, location and phone are in place, they will be made available to students.

## **Course Outline**

**WEEK ONE:** *Introduction: Defining Sustainability*

**WEEK TWO:** *History of Green*

**WEEK THREE:** *Seeing Water and Seeking Sustainability*

**WEEK FOUR:** *Flow, The Film*

**WEEK FIVE:** *Environment, Economics and Culture*

**WEEK SIX:** *Nature and the Imaginary*

**WEEK SEVEN:** *Midterm Project Presentations*

**WEEK EIGHT:** *Development Processes*

**WEEK NINE:** *Multi-programmatic and Hybrid*

**WEEK TEN:** *Operational Working Methods*

**WEEK ELEVEN:** *Defining the Architect*

**WEEK TWELVE:** *Case Studies*

**WEEK THIRTEEN:** *Final Presentations*

**WEEK FOURTEEN:** *Final Presentations*

**Bibliography:** Weekly course readings will be available on Moodle.