Course Number: **ARC 3463**
Course Title: **Materials and Methods of Construction II**
Term: Spring 2020
Section Number: 1072
Credits 3
Meeting times: Tuesday 10:15 AM to 1:15 PM
Professor: **Lisa Huang**
University of Florida, Vicenza Institute of Architecture
Contrà SS. Apostoli 51, 36100 Vicenza – Italia
Email: lisahuang@ufl.edu
Faculty office: Third floor VIA building, Vicenza, Italy
For office hours refer to the chart posted at the door of the faculty office.

SYLLABUS

Course Introduction
Architectural spaces are defined through a complex interplay of materials, assemblages, and systems. It is through relationships within and between these materials, assemblages, and systems that we divine architectural intent, meaning, and purpose. It is also through the deployment of these means that we engage matter, energy, economy, and the environment. The material logics of architectural constructions are influenced by biologists, chemists, geologists, engineers, industry, fabricators, suppliers, and installers. Architects must work to balance the competing demands of social, cultural, economic, and environmental discourses through the specific material constructions that they create.

Materials are at times reduced to textures, surfaces, and bitmaps that can be applied like interchangeable wallpaper on preconceived and/or predetermined shapes. This mode of work, however, often yields tremendous inefficiencies in material use and fails to take advantage of the inherent properties of different materials. By carefully considering the ways in which materials meet one another, the tectonic language of a construction can influence every aspect of a work, providing clarity in both the spatial intent and in the deployment of matter.

At the University of Florida, issues of materiality are introduced initially in the beginning design studios, where students are asked to work with physical materials to construct spatial assemblages. Materiality is understood not as an additive attribute or surface quality that is applied post facto, but rather it is an inherent and constituent aspect of the construction. Materials are recognized as having dimensional properties, mass, and weight.

The language of materials and their use is introduced in a more formal way in the second year of our sequence through Materials and Methods of Construction I. This course is structured to introduce students to individual materials, possible applications, and specific performance characteristics of materials, products, and building components. It also introduces certain assemblies, and provides a basic understanding of the building and construction process. Subsequent coursework in structures, environmental technology, history, theory, seminars, and design studio help to build a sensitivity to the use of materials while also stretching the discourse to engage a wide range of issues.

Building on this foundation, Materials and Methods of Construction II focuses on helping you to understand the set of questions that need to be asked as you develop your inventive design ideas and incorporate the issues of construction. While the first course in this sequence emphasized individual materials and material systems, this course focusses principally on the assemblage and the ways in which many materials are used in concert with one another. We assume that every attempt to translate an idea into a constructible reality requires the designer to hypothesize about the materials and processes that might be used in its construction. Knowledge of the conventions of construction provides a foundation for developing construction details, helps you to consider alternatives that might improve their function and quality, and gives you the ability to evaluate their potential for success.

Our tasks in this course are:

- To make you knowledgeable of the issues involved in detailing and assembling buildings.
- To help you understand methods for insuring the quality of the materials of that construction and the means of its documentation.

- To be able to use and understand the codes which control a building's occupation, accessibility, safety, stability, and sustainability.

The course consists of the following components:

Lectures: Lectures will present the conceptual basis of construction to help you evaluate details you may confront and create alternatives to improve them. It is our hope that the lectures will enable you to understand current conventions of construction as well as be prepared to evaluate new materials and processes as the construction industry evolves during your professional life.

Field Observation: On our trips and within Vicenza, there will be group discussions and you will be sketching details and wall sections to understand and speculate on existing material assemblies.

Workshops: Workshops consist of brief intensive sessions to study certain influences on both a building's design and the design intentions such as codes, construction documents, and specifications.

Readings: Readings that expand upon the information presented in the lectures and provide an additional basis for participating in the lab sessions will be assigned as the semester proceeds.

Grades
Course grades will by the field exercises, group lab projects, and attendance and participation in class. The weighting of these components with regards to the final grade is as follows:

Field Observation Exercises	50%	(250 points)
Workshop Exercises	10%	(50 points)
Final Project	25%	(150 points)
Attendance + pop quizzes	10%	(50 points)
		(500 points) TOTAL

Every effort will be made to give timely and appropriate feedback for your performance. If you have questions about your grade, you may schedule a conference to review your scores, attendance and performance.

Final grades will reflect the University of Florida policies for assigning grade points, which can be found at http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html as the following scale, grade point equivalent, and numeric score demonstrate.

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
Numeric Grade	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	0-59
Quality Points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

Attendance
Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies that can be found at:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx. Additional details regarding attendance and accommodations are as follows. Attendance for the lab AND lectures are mandatory and is recorded. Chronic absences and/or tardiness will have a negative impact on your grade, with a loss of up to 20% over your overall score (see grade breakdown above). If you must miss class (lecture or lab), it is your responsibility to get the assignments and notes from your classmates.

Make-up work
In the event of serious illness, family or personal crisis, arrangements can be made for attendance, missed exams or late work. On this point, it is important for you to let the professor know of your circumstances as soon as possible via email. For missed work, we will determine an appropriate schedule for completion and

submission of the work. For a missed exam or assignment with a legitimate excused absence, a make-up session will be scheduled for the earliest available date.

Late Work
All graded assignments must be turned in by the posted deadline and late submittals will not be accepted without an approved excuse (see above). Late submission of the Projects (starting at 5:01pm) will be deducted at the rate of one full letter grade per day from the evaluated grade.

Students with Disabilities
It is expected that students with disabilities will let me know of their needs. Students requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter that must be presented to the professor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

On-line Course Evaluations
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

Academic Honesty
The University of Florida maintains a student honor code regarding cheating and use of copyrighted materials produced by others. Specific policies can be found at: http://www.dso.ufl.edu/judicial/honorcode.php. All students are expected to conduct themselves in accordance with the highest standards of academic integrity. Cheating and plagiarism will not be tolerated. Any student who submits plagiarized work will receive a failing grade for the course and be subjected to further disciplinary action as outlined in the student honor code.

Changes and Revisions to Syllabus
This syllabus is subject to change. Any changes will be relayed during regular class hours.

Required Textbook
- Edward Allen and Joseph Iano. Fundamentals of Building Construction: Materials and Methods, 6th Edition. New York: Wiley Press, 2013.
- Frances D.K. Ching. Building Construction Illustrated, 4th edition (or 5th edition), New York: Wiley Press, 2000.

L = Lecture / WS = Workshop

19 January	L: Introduction to Course L: Case study Intro L: Envelope Principles and Walls
16 January	**Barcelona Trip**
23 January	L: Foundations L: Structure L: Case study: Foundation + Structure + Walls
30 January	L: MEP L: Roof L: Details L: Case Study: MEP + Roof
6 February	L: Stacking + Stretching
13 February	**Roma Trip**
20 February	**Spring Break**

27 February	L: Carving + Casting
6 March	**Bellinzona/Vals Trip**
12 March	L: Building Codes L: Vertical Circulation WS: Codes
20 March	L: Scope of Work: Construction Documents WS: reading Working Drawings
27 March	L: Scope of Work: Cautionary Tales L: Scope of Work: Fabrication Project meetings
3 April	L: Costs Project meetings
10 April	Last class Project Due