

ARC 3463 – Methods and Materials of Construction 2

Spring 2021: Lecture Tu-Th 1:55-2:45p FAB 103, Lab1 Tu 9:35-11:30a (WEIM 1070), Lab2 Tu 11:45a-1:40p (FAC 0127)

Jason Alread AIA, LEED AP jalread@ufl.edu

Office hours: M/W 1-2pm or by appointment (preferred) Office: ARC 144

Phone: 352-294-1456

Graduate Teaching Assistants:

Camila Moreno: morenocamila@ufl.edu

Anwar Sadat: anwar.sadat@ufl.edu

COURSE INTRODUCTION

Materials and Methods focuses on helping you understand the set of questions that need to be asked as you transform your inventive design ideas towards the realities of construction. 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, safety and stability

The course consists of three primary parts:

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.

Labs/ Workshops: Weekly lab sessions provide an opportunity to examine, discuss and understand construction and detailing as it applies to a group design project. Workshops consist of brief intensive sessions to study certain influences on both a buildings design and the design intentions such as codes, construction documents and specifications.

Tests: Tests will provide an assessment of comprehension and retention of the concepts and studies from the lectures and labs/workshops.

Tests

There will be two tests this semester:

- A first test is scheduled for **February 15** (week 7) and will include terminology, construction detail/material identification, and building code information, application and usage.
- A second test is scheduled for **March 29** (week 13) and will cover primarily information introduced in the second half of the semester, some cumulative information (such as terminology, drawing interpretation and building envelope principles), and the evaluation and/or completion of construction details.

The tests will be held during your respective lab periods (Tuesday mornings, either periods 3-4 or 5-6).

Lab Project

Roughly a third of the course grade will be determined by a semester-long, partial group exercise managed through the lab. This project is directed to two key aspects: first, the application of code, material and detailing principles to a design problem; and second, the application and demonstration of these principles through the production of a set of preliminary construction drawings. Groups will be composed of three to four members. The lab project grade will be established by the assessment of the entire drawing set and applied to each member of the group, accounting for both the quality of the drawing set and the participation and effectiveness of each group member through peer-evaluation.

Grades

Course grades will be determined by the two tests, group lab project, and attendance and participation in class. The weighting of these components with regards to the final grade is as follows:

Test 1	20%	(100 points)
Test 2	20%	(100 points)
Independent Exercises and/or Homework	10%	(50 points)
Lab Project	35%	(175 points)
Lab session attendance and participation	15%	(75 points)
		(500 points)

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 <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/> 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 is mandatory and is recorded. Chronic absences and/or tardiness will have a negative impact on your grade, with a loss of up to 15% over your overall score (see grade breakdown above). Attendance to the lecture is expected and strongly encouraged, as materials covered in the lecture will be tested. 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 me know of your circumstances as soon as possible. For missed work, we will determine an appropriate schedule for completion and submission of the work. For a missed exam, a make-up exam will be scheduled for the earliest available date.

Late Work

All individual homework must be turned in by the posted deadline and late submittals will not be accepted without an approved excuse (see above). Regarding the larger group project, it is in your best interest to meet this deadline (set for 5pm on April 26).

Late submission of the drawing set will be deducted at the rate of one full letter grade from the evaluated grade for the set per day.

Students Requiring Accommodations

It is expected that students with disabilities will let me know of their needs. Students requesting accommodations should connect with the Disability Resource Center (<https://disability.ufl.edu/students/get-started/>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to me 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 online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/.

Student Honor Code

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action.

For more information regarding the Student Honor Code, please see:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>

Counseling and Wellness Center

Contact information for the Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Required Textbook

Frances D.K. Ching. *Building Construction Illustrated, 4th edition (or 5th edition, or even the new 6th edition)*, New York: Wiley Press, 2000.

Course Bibliography/Recommended Texts and Resources

Dennis J. Hall and Charles Rick Green. *The Architect's Guide to the U.S. National CAD Standard*. Hoboken, New Jersey: Wiley & Sons, Inc. 2006.

Frances D.K. Ching and Steven R. Winkel. *Building Codes Illustrated, 3rd Edition*. Hoboken, New Jersey: Wiley and Sons, Inc. 2009.

Edward Allen. *The Architect's Studio Companion, 3rd edition*, New York: Wiley Press, 2001.

Linda Brock. *Designing the Exterior Wall: An Architects Guide to the Vertical Envelope*, New York: Wiley Press, 2005.

Brownell, Blaine. *Transmaterial*, New York: Princeton Architectural Press, 2006. See also <http://transstudio.com>

City Commissioners. *Code of Ordinances, City of Gainesville Florida, 2005*

Thomas Herzog, Roland Krippner, Werner Lang. *Facade Construction Manual*, Basel: Birkhauser Press, 2004. International Code Council. *Florida Building Code, 2007*.

Friedbert Kind-Barkauskas, Bruno Kauhsen, Stefan Polonyi, Jorg Brandt. *Concrete Construction Manual*, Basel: Birkhauser Press, 2002.

Gunter Pfeifer, Rolf Ramcke, Joachim Achtziger and Konrad Zilch. *Masonry Construction Manual*, Basel: Birkhauser Press, 2001.

Charles Ramsey, Harold Sleeper, John Hoke. *Architectural Graphic Standards*, New York: Wiley, 2000.

Christian Schittich, Gerald Staib, Dieter Balkow, Matthias Schuler, Wener Sobek. *Glass Construction Manual*, Basel: Birkhauser Press, 1999.

Helmut Schulitz, Werner Sobek, Karl Habermann. *Steel Construction Manual*, Basel: Birkhauser Press, 2000. Eberhard Schunck, Hans Oster, Rainer Barthel, Kurt Kiessl. *Roof Construction Manual*, Birkhauser Press, 2003.

ARC 3463 – Methods and Materials of Construction 2: Spring 2022

COURSE SCHEDULE (tentative as of 1/3/22)

S	M	TUESDAY	W	THURSDAY	F	S
	01.01	01.04 <u>No class yet</u>		01.06 <u>Lecture: Course Introduction/Overview/Group</u>		
		01.11 <u>Lab: Scavenger Hunt Code Workshop – General Code Search</u> <u>Lecture: Building Codes</u>		01.13 <u>Lecture: Movement, Accessibility and Egress</u> Assignment 1 issued		
	01.17 MLK	01.18 <u>Lab: Code Workshop – General Code Search</u> <u>Lecture: Issues of Site</u>		01.20 <u>Lecture: Systems Integration: Foundations</u> Assignment 2 issued		
		01.25 <u>Lab: Code Workshop – Accessibility and Movement: Assignment 1 preliminary review</u> <u>Lecture: Systems Integration: Structure</u>		01.27 <u>Lecture: Systems Integration: MEP</u>		
		02.01 <u>Lab: Reading Working Drawings Workshop</u> <u>Lecture: Concepts of Building Envelope</u>		02.03 <u>Lecture: Walls: Part 1</u>		
		02.08 <u>Lab: Drawing Prep and Management Workshop</u> Presentation of Final Site Plans / Concepts <u>Lecture: Walls: Part 2</u>		02.10 <u>Lecture: Review for Test #1</u> Assignment 3 issued		
		02.15 <u>Lab: TEST #1</u> <u>Lecture: No Lecture</u>		02.17 <u>Lecture: Walls Part 3</u>		
		02.22 <u>Lab: Dimensions and Notation Workshop Check Set</u> <u>Lecture: Roof Concepts 1</u>		02.24 <u>Lecture: Roof Concepts 2</u>		

S	M	TUESDAY	W	THURSDAY	F	S
		03.01 <u>Lab: Schedules</u> <u>Lecture: Doors</u>		03.03 <u>Lecture: Details</u> <u>Check Set #1 Returned, Assignment 3 due</u> <u>Assignment 4 issued</u>		
		03.08 <u>SPRING</u>		03.10 <u>BREAK</u>		
		03.15 <u>Lab: Specifications</u> <u>Lecture: Costs</u>		03.17 <u>Lecture: Specifications</u>		
		03.22 <u>Lab: Set Review and Questions</u> No Lecture		03.24 <u>Lecture: Review for Test #2</u>		
		03.29 <u>Lab: TEST #2</u> <u>Lecture: No Lecture</u>		03.31 <u>Lecture: Substance</u>		
		04.05 <u>Lab period reserved for drawing review</u> <u>appointments</u> <u>Lecture: LaMie</u>		04.07 <u>Lecture period reserved for drawing review</u> <u>appointments</u>		
		04.12 NO CLASS D8 REVIEWS		04.14 <u>Lecture period reserved for drawing review appointments</u> <u>- Period 7</u>		
		04.19 <u>Lab period reserved for drawing review</u> <u>appointments</u>		04.21 READING DAYS		

4/26 FINAL LAB PROJECTS DUE BY 5PM !

Note: This calendar is tentative and dates of tests and assignments may be subject to change. Notification of changes or adjustments will be made as far in advance as possible.