INTRODUCTION TO BUILDING TECHNOLOGY **COURSE SYLLABUS**

Course, Section	Meeting Times + Locations	Faculty, Instructors	
ARC2490 C Credits: 3 Sections: All	Lecture M, Periods 10 - 11 (5:10pm - 7:05pm) Location: TUR L005	Mani Karami maniarch@ufl.edu (352) 392-0205 Office: Zoom Office Hours: Tues, 10am - 12pm	Peter Sprowls peter26@ufl.edu (352) 392-0205 Office: AH 232 Office Hours: Tues, 12:30 - 2:30
Sections: 19410 19412	Lab Session A T, R Periods 2 - 3 (8:30am - 10:25am) Location: AH 116	Michael Nemery michaelnemery@ufl.edu	
Sections: 19411 19413	Lab Session B T, R Periods 10 - 11 (5:10pm - 7:05pm) Location: AH 116	Sydney Ruedas sidneyruedas@ufl.edu	

Introduction and Course Goals

As the introductory course in a multi-year integrated building technology sequence, this course will introduce the fundamental concepts of materials and methods relative to building design and construction. In addition, two digital design modules will develop student abilities to problem solve and represent ideas.

By teaching these topics as a series of inter-related modules with hands-on learning laboratory assignments, students are expected to learn the important technological information associated with each topic, to see sustainable design connections across modules, and to develop a facility in integrating these ideas into their design studio projects.

This course will introduce students to the fundamental aspects of building material systems and introductory digital design tools, methodologies and means of representation.

- Understand the fundamental aspects of building material systems
- Understand at an introductory level the role and relationship of digital design tools to design projects
- Apply digital design methods to targeted design projects
- Understand the spatial and tectonic relationships of design in the digital realm
- Develop skills in digital representation methods and output

NAAB Student Performance Criteria

Primary Location for Student Performance Criteria

- None

Secondary Location for Student Performance Criteria

- None

Course Methodology

This course will cover a range of topics and will be delivered in focused, topical modules.

Digital (Module 1+2)
This module introduces students to fundamental techniques of architectural representation using digital methods, including drafting in 2D and 3D, as well as perspective renderings and image editing. The module also covers basic understanding of different architectural drawing conventions and their respective application in the representation of a design project.

Materials and Methods (Module 3)
This module introduces hands-on investigations with materials at a 1:1 scale and the implications of material decisions on design work. Emphasis will be placed on various material systems, specifically frame and lattice assemblies, concrete, masonry and mass assemblies and issues of ground.

Content Delivery

The modules will be composed of three different methods of content delivery.

Lectures: Lectures will present the overarching content and issues to the class as a whole. These will be led by module instructors.

Labs: Lab sessions provide opportunity to examine, discuss, and understand content covered in each module in a hands-on manner; work and participation in class is expected. Assignments vary per module.

Workshops: Intensive sessions to study specific topics within a module. Workshops will occur during lab sessions and may include group work, to better facilitate hands-on learning.

This course is structured as an on-campus, in-person class. Most class meetings will NOT be available online.

Course Required Texts, Readings and Software

Digital Architecture (Module 1+2)
Required Software:
Adobe CC Rhinoceros
7.0 / 8.0

Materials and Methods (Module 3)
Required Text:
Fundamentals of Building Construction: Materials and Methods: Seventh Edition; Edward Allen and Joseph Iano; Wiley; 2019; ISBN 978-1-119-45025-2

Recommended Texts:
Building Construction Illustrated; 6th Edition; Francis D. K. Ching; 2019; ISBN 978-1-119-58316-5
Architect's Studio Companion: Rules of Thumb for Preliminary Design, 7th Edition; Edward Allen and Joseph Iano; Wiley; 2022; ISBN 978-1-119-82680-4

Course Schedule

	Week	Date	Reading	Class Topic
Digital Media ***Module 1***	2 DIG	08/25	AS ANNOUNCED	Introduction: Rhino Cubes+Site Modeling
	3 DIG	09/01	Labor Day – Labs Only	Rhino Delta Shelter
	4 DIG	09/08	AS ANNOUNCED	Plan: Rhino Ando 4x4
	5 DIG	09/15	AS ANNOUNCED	Section: View, Display, Settings, Cap, Mat. Map.
Module 2	6 DIG	09/22	AS ANNOUNCED	3D Representation: Illustrator: Diagram, Linework, Overlay
	Week	**Date**	**Reading**	**Class Topic**
Digital Media ***Module 2***	7 DIG	09/29	AS ANNOUNCED	Mapping: Photoshop: Collage, Mapping, Building a Drawing
	8 DIG	10/06	AS ANNOUNCED	Diagrams: Photoshop: Perspective Vignettes, Renderings, Screencap Overlays
	9 DIG	10/13	AS ANNOUNCED	2d Concepts in Arch Representation: InDesign Layout Basics; Digital Fabrication

	Week	Date	Reading	Class Topic
Materials + Methods of Construction ***Module 3***	10 MM	10/20	FBC:MMed7 p3-31	Intro: Materials 1:1, Architectural Practice + Materiality: Surface
	11 MM	10/27	AS ANNOUNCED	Material Implications: Heavy v Light, Thick v Thin
	12 MM	11/03	AS ANNOUNCED	Wood and Steel Construction
	13 MM	11/10	AS ANNOUNCED	Lattice & Frame Assemblies
	14 MM	11/17	AS ANNOUNCED	Structure, Site, Ground | Stair
	15 MM	11/24		*Fall Break*
	16 MM	12/01	AS ANNOUNCED	Monolith, Stereotomic, and Formed Structures

Please note that schedule is subject to change by the faculty members to accommodate in-class teaching ad progress.

Course Evaluation and Grading

Students will be responsible for the material in the reading assignments as well as the course lectures and laboratory sessions. There will be a range of project assignments, and may include both individual and group work. Assignments will ask students to apply knowledge of class material in two potential forms; topic-specific lab assignments relative to direct coursework, and synchronous assignments that complement concurrent, studio- based design projects.

Digital Media Module (weeks 2-9):
Assignments in this module will provide students the opportunity to learn the complex role of digital media within the design fields, and test students' knowledge of fundamental digital drawing, modeling, rendering, and image production methodologies. These assignments will contribute to the final portfolio, which assesses the synthesis and/or integration of module topics as exhibited within a design problem.

Materials/Methods Module (weeks 10-16):
Assignments for this module focus on introductory material systems and corresponding impacts to preliminary design and construction logics. Students will be expected to complete specific assignments and/or workshops. This module concludes with a summary exam as part of the graded materials. This exam will include terminology, construction type/material identification, and other content and material covered in this module as deemed relevant including but not limited to its readings, lectures, media, and exercises.

Each module will be graded individually. The semester grade will be based on the following breakdown relative to content modules and final project: **To pass the course, the cumulative course grade must be a 60% or better.**

Summary Breakdown for Course:

Digital Media Module:	54% of course grade
Materials/Methods Module:	36% of course grade
Attendance:	10% of course grade
Total:	100%

Course and University Policies

Missing/Late Work:
Specific expectations and assessment criteria will be included as part of each individual assignment in separate handouts and announcements. Missing or late work will be graded down at 10% of final assessed grade per day. Work submitted later than 5 days will not be graded. If an assessment is missing or late due to an excused absence (see Attendance section of syllabus), it needs to be completed in a timely manner. Specific submission deadlines will be coordinated by the module instructor.

Please note: Certain laboratory assignments or course experiences may not be able to be replicated and, if missed, will require specific arrangements to be coordinated with module Instructors

For a complete review of University of Florida Academic Policy, please use this link.
https://go.ufl.edu/syllabuspolicies