

Cover Sheet: Request 14550

ARC2XXXC Introduction to Building Technologies

Info

Process	Course New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Mark Mcglothlin mmcglath@ufl.edu
Created	12/15/2019 10:04:30 AM
Updated	1/13/2020 9:20:41 PM
Description of request	ARC2XXX Building Technology is the first of a multi-course integrated building technology sequence, and as such is introductory in content. This course will replace existing second-year course ARC2180 Introduction to Digital Architecture

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	DCP - Architecture 011502000	Mark Mcglothlin		12/15/2019
No document changes					
College	Approved	DCP - College of Design, Construction and Planning	Abdol Chini		12/19/2019
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			12/19/2019
No document changes					
Statewide Course Numbering System					
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 14550

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Submitter: Mark Mcglothlin mmcglath@ufl.edu

Created: 1/14/2020 11:39:14 AM

Form version: 5

Responses

Recommended Prefix ARC

Course Level 2

Course Number XXX

Category of Instruction Introductory

Lab Code C

Course Title Intro to Building Technologies

Transcript Title Intro Building Tech

Degree Type Baccalaureate

Delivery Method(s) On-Campus

Co-Listing No

Effective Term Earliest Available

Effective Year Earliest Available

Rotating Topic? No

Repeatable Credit? No

Amount of Credit 3

S/U Only? No

Contact Type Regularly Scheduled

Weekly Contact Hours 3

Course Description This is the first course in a multiple-course sequence that addresses the relationship between building technologies and design thinking. This class will introduce fundamental concepts of materials and methods relative to building design and construction. It will also offer digital design modules that will develop problem-solving and representational skills.

Prerequisites None

Co-requisites ARC2303 Architecture Design 3

Rationale and Placement in Curriculum This is the introductory course in a sequence of building technology courses and aligns with the second-year studios. Second-year studios advance fundamental design principles alongside introductory building systems and digital design tools and methods of representation. These topics will be taught in inter-related modules with hands-on learning laboratory assignments and concurrent lecture-based content. Students are expected to learn the important technological information associated with the introductory topics of Materials and Methods and Digital Design, with the intent to develop the ability to integrate these ideas into their concurrent and future design studio projects.

Course Objectives 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

Course Textbook(s) and/or Other Assigned Reading Fundamentals of Building Construction:

Materials and Methods; Sixth Edition; Edward Allen and Joseph Iano; Wiley; 2014; ISBN 978-1-118-13891-5

Weekly Schedule of Topics

Materials/Methods Module

Week 1 MM

Introduction: Architectural Practice + Materiality as a Concept

Week 2 MM

Material Implications

Week 3 MM

Frame/Lattice Assemblies

Week 4 MM

Wood/Steel

Week 5 MM

Stairs

Digital Media Module

Week 6 DM AutoCAD – 2D Drafting

Week 7 DM AutoCAD- Paper Space, Plotting, Drawing Scale

Week 8 DM SketchUp

Week 9 DM SketchUp

Week 10 DM Rhino and Brazil Render

Week 11 DM Photoshop 2D: Plans and Sections

Week 12 DM Photoshop 3D: Perspective Vignettes

Week 13 DM Photoshop 3D: Perspective

Week 14 DM Illustrator Linework, Diagrams

Week 15 DM InDesign/Portfolio Layouts

Grading Scheme 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, all modules must be completed at a passing level (60% or better) AS WELL AS the cumulative course grade.

Summary Breakdown for Course:

Materials/Methods Module: 40% of course grade

Digital Media Module: 60% of course grade

Total: 100%

Materials/Methods Module: 40% of course grade

Lab assignments: 75% of module grade, as follows:

Material implications lab assignment – 25%

Frame|Lattice lab assignment – 25%

Steel|Wood Lab assignment – 25%

Summary MM Exam: 25% of module grade

Digital Media Module: 60% of course grade

AutoCAD Assignment: 15% of module grade

Sketchup Assignment: 15% of module grade

Rhino/Brazil Assignment: 15% of module grade

Photoshop 2D Assignment: 15% of module grade

Photoshop 3D Assignment: 15% of module grade

Illustrator Linework Assignment: 10% of module grade

InDesign/Portfolio Assignment: 15% of module grade

InDesign/Portfolio Assignment: 30% of Module Grade

Instructor(s) Materials/Methods Module: To be determined

Digital Media Module: To be determined

Attendance & Make-up Yes

Accommodations Yes

UF Grading Policies for assigning Grade Points Yes

Course Evaluation Policy Yes

ARC 2XXX Introduction to Building Technology SYLLABUS

GENERAL COURSE INFORMATION:

Course times:	TBD
Total Credits:	3
Prerequisites:	None
Class Room:	TBD
Instructors:	<u>Materials/Methods Module (weeks 1-5):</u> Faculty Member 1 Office: XX Contact: XX Office Hours: XX
	<u>Digital Media Module (weeks 6-15):</u> Faculty Member 2 Office: XX Contact: XX Office Hours: XX

COURSE DESCRIPTION:

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 subsequent digital design modules will develop student abilities to problem solve and represent ideas.

COURSE RATIONALE AND PLACEMENT:

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.

COURSE OBJECTIVES:

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
- None

COURSE METHODOLOGY:

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

Materials and Methods (Module 1)

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.

Digital (Module 2-3)

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.

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 an opportunity to examine, discuss and understand content covered in each module in a more hands-on manner. Specific lab assignments will vary per module.
- Workshops: Workshops consist of brief 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.

COURSE TEXTS AND READINGS:

Materials and Methods (Module 1):

Required Text:

Fundamentals of Building Construction: Materials and Methods; Sixth Edition; Edward Allen and Joseph Iano; Wiley; 2014; ISBN 978-1-118-13891-5

Digital Architecture (Module 2-3):

Selected readings will be provided in the form of a course reader from:

None

Required Text:

None

COURSE SCHEDULE:

	Week	Date	Readings	Class Topic
Materials\ Methods Module	1 MM	XX	XX	Introduction: Architectural Practice + Materiality as a Concept
	2 MM	XX	XX	Material Implications
	3 MM	XX	XX	Frame/Lattice Assemblies
	4 MM	XX	XX	Wood/Steel
	5 MM	XX	XX	Stairs

	Week	Date	Readings	Class Topic
Digital Media	6 DIG	XX	XX	AutoCAD – 2D Drafting
	7 DIG	XX	XX	AutoCAD- Paper Space, Plotting, Drawing Scale
	8 DIG	XX	XX	SketchUp
	9 DIG	XX	XX	SketchUp

	10 DIG	XX	XX	Rhino and Brazil Render
	11 DIG	XX	XX	Photoshop 2D: Plans and Sections
	12 DIG	XX	XX	Photoshop 3D: Perspective Vignettes
	13 DIG	XX	XX	Photoshop 3D: Perspective
	14 DIG	XX	XX	Illustrator Linework, Diagrams
	15 DIG	XX	XX	InDesign/Portfolio Layouts

COURSE EVALUATION/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.

Materials/Methods Module (weeks 1-5):

Assignments for this module will be focused 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 will include with a summary exam as part of the graded materials. This exam will be scheduled for the lecture period of week 5 and will include terminology, construction/material identification, and other content covered in this module.

Digital Media Module (weeks 6-15):

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 digitals drawing, modeling, rendering, and image production methodologies. These assignments will contribute to final portfolio, which assesses the synthesis and/or integration of module topics as exhibited within a design problem.

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, all modules must be completed at a passing level (60% or better) AS WELL AS the cumulative course grade.**

Summary Breakdown for Course:

Materials/Methods Module:	40% of course grade
<u>Digital Media Module:</u>	<u>60% of course grade</u>
Total:	100%

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Sketchup Assignment – 15% of module grade
Rhino/Brazil Assignment – 15% of module grade

Photoshop 2D Assignment – 15% of module grade
Photoshop 3D Assignment – 15% of module grade
Illustrator Linework Assignment – 10% of module grade
InDesign/Portfolio Assignment – 15% of module grade

Missing/Late Work:

Specific expectations and assessment criteria will be included as part of each individual assignment in separate handouts. 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 Instructor.

UF Grading Policy

Information on UF's grading policy for assigning grade points can be found at the following location:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Grading Scale

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 in this course are consistent with university policies that can be found at:

www.https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Additional details regarding attendance and accommodations are as follows. Attendance for all lectures, labs and/or workshops is mandatory and is recorded. Chronic absences and/or tardiness will have a negative impact on your grade. Tardiness of more than 20 minutes to any lab/lecture will be counted as an unexcused absence. Three or more unexcused absences may result in a full letter-grade reduction in the course. Four unexcused absences can result in failure of the course (see grade breakdown above). Materials covered in the lecture will be tested. If you must miss class, it is your responsibility to notify the instructors in a timely manner, as well as getting the assignments and notes from your classmates.

SHARED POLICIES:

Course Evaluations:

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at gatorevals.ua.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.ua.ufl.edu/public-results/.

Regarding accommodations for students with disabilities

Students with disabilities requesting accommodations should first register with the University of Florida Disability Resource Center by providing appropriate documentation (352-392-8565, www.dso.ufl.edu/drc/). Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Academic Honesty

Students in the School of Architecture are expected to adhere to all University of Florida academic honesty policies. Failure to do so will result in lowered grades and/or referral to the University Honor Court. Since the University's policies are necessarily generalized, the School of Architecture further clarifies academic honesty within the specific setting of design education. The following acts are considered to be academic dishonesty:

1. Plagiarism/misrepresentation

There shall be no question of what your work is and what someone else's is. This applies to all aspects of student performance, including but not limited to

- CAD drawings and construction details
- design guidelines (written and graphic)
- design, planning, and management projects or portions of projects
- class reports and papers (again, both written and graphic information)
- any assignment where sole authorship is indicated, such as take-home tests, individual projects, etc.

Examples of inappropriate activities include:

- copying graphics for a report without crediting the original source
- representing someone else's work as your own (using existing CAD construction details, tracing drawings, etc.)
- allowing someone else to represent your work as his own

Given the collaborative nature of this course, interaction between students is desirable, but the intention and degree of assistance must be appropriate. For example, it is appropriate to discuss the assignment/method/software program/course materials—but it is not appropriate to solve or resolve a large portion of the project together, unless defined as such in the assignment.

The importance of precedent and learning from past works is a necessary part of most design processes. Again, it is the intent and degree of “borrowing” ideas that is at question.

Anything not original must be paraphrased and cited, or quoted; using accepted style formats such as APA, MLA, Chicago Manual of Style, etc. This includes information obtained from the Internet, public documents, graphics, and personal interviews as well as more traditional written sources. Proper crediting of all information that is not common knowledge is necessary for academic honesty as well as for professionalism. (For example, analysis drawings and/or text should cite the sources from which data was obtained so that if questions arise later, they can be quickly and accurately answered.)

2. Multiple submissions of the same or similar work without prior approval

This course is aligned with design studios with the intent of establishing concurrent lessons between both courses. In noting this, there will be moments when assignments and/or exercises for each class are expected to inform one another. In these instances, if course instructors understand and agree that you are doing an assignment associated with a specific topic, then doing similar work for two different classes is acceptable. It would be inappropriate to submit a single assignment for one class, then later submit the same assignment for another course if the instructors are expecting original work.

3. Falsifying information

Examples include:

- misrepresenting reasons why work cannot be done as requested
- changing or leaving out data, such as manipulating statistics for a research project, or ignoring/hiding inconvenient but vital site information. (However, for educational purposes only, certain aspects of the “real world” may be jointly agreed upon as not being pertinent to the academic goals of the course, such as not dealing with specific project parameters or budget, changing the program, etc.)
- altering work after it has been submitted
- hiding, destroying, or otherwise making materials unavailable (hiding reference materials, not sharing materials with other students, etc.)

Counseling + Emergency Contacts

Police / Fire / Medical Emergency – 911

U Matter, We Care, 294-2273; <http://www.umatter.ufl.edu>

Sexual Violence: 392-5648 or 392-1111 after hours, confidential reporting

University Counseling Center, 301 Peabody Hall, 392-1575; <https://counseling.ufl.edu>

University of Florida Student Health Care Center, 392-11671; <https://shcc.ufl.edu>

University of Florida Dean of Students, 392-1261, after hours: 392-1111 (ask for on-call staff); <https://dso.ufl.edu>

Alachua County Victim Services and Rape Crisis Center (24hrs/day); 264-6760

