

BCN 3224 – Construction Techniques

General Course Information

Instructor: Dr. Walters, Office Rinker 329, 273-1173, nwalters@ufl.edu

Office Hours: Monday & Wednesday 6th Period (12:50 PM – 1:40 PM)

Objectives: Students will learn the elements related to the principles of construction methods and techniques, gaining a basic understanding of the built world that surrounds us and how it is constructed.

Description: Study of vertical construction processes to include wooden platform frame construction, cast-in-place and pre-cast concrete construction, and steel erection. Included are masonry construction, interior and exterior finishes, vertical transportation, roofing, and other building components.

Prerequisites: Acceptance in the UF BCN program.

University Policies: Review the following link for university academic policies and resources: <https://go.ufl.edu/syllabuspolicies>,

Method: Two one-hour lectures/discussion periods and a two-hour lab per week, with corresponding reading assignments from the text and lab. Text assignments shall be done before the class in which they are discussed. Students are responsible for the content of all reading materials, regardless of whether the material is covered in class.

Course Learning Outcomes

1. Relate basic construction vocabulary and terminology of construction for various building elements/components.
2. Design a construction logistics plan (parking and access routes, storage areas, project limit fencing, etc.).
3. Analyze construction techniques associated with wood, steel, and reinforced concrete framing; floor systems; roof systems; masonry construction; curtain walls; building insulation; and interior and exterior finishes.
4. Set up the construction activities sequence and illustrate the importance of safety and constructability issues.
5. Interpret and extract information from the Florida Building Code.
6. Evaluate the latest available construction materials and techniques, and be familiar with current issues such as mold and mildew.
7. Apply basic surveying techniques for construction layout and control

ACCE = American Council for Construction Education

SLO= Student Learning Outcome

CLO	ACCE SLO	Course Learning Outcome (CLO)	Assignment(s)	Percent Students Passing with a minimum 70%
1		Relate basic vocabulary	Text Home works / Final Exam	80%
2	SLO 7 – I	Design logistics plan	Sketch-up fieldtrip assignments / Final Project	80%
3		Analyze techniques	Text <u>Homeworks</u>	80%
4	SLO 3 – I	Set-up plan and highlight safety	Final Safety Project	80%
5		Interpret building code	Codebook home works	80%
6		Evaluate latest materials / weatherproofing / Sustainability	Perry Yard Activities / Sustainable Lecture / Roofing Project	80%
7	SLO 9 – DA	Apply basic surveying techniques for construction layout and control	Final Survey Individual Field Test	70%

I – Introduce

DA – Direct Assessment

BCN 3224 – Construction Techniques

Texts / Exams/Attendance

Text Required	Mehta, Madan, Scarborough, Walter, and Amrpreet, Diane. <u>Building Construction – Principles, Materials, and Systems</u> (Current). ISBN – 10:0-13-506476-7.												
	<u>Florida Building Code</u> , Southern Building Code Congress International, Inc., Latest edition https://floridabuilding.org/bc/bc_default.aspx												
	Leadership Secrets of Attila The Hun. ISBN 9780446391061												
Extra Credit	Crawford, Matthew B.: <u>Shop Class as Soulcraft</u> ; Penguin Books, 2009.												
	Roberts, Wess: <u>Leadership Secrets of Attila the Hun</u> ; Business Plus, 1990 (reissue 2009)												
Technology	Revu/Bluebeam – Free academic download Procore University – Free												
Tests	3 exams / 1 cumulative final – All equally weighted												
Final Exam:	The final exam will be administered during finals week, as scheduled by the BCN office – it may not align with the University's academic calendar. The final will be comprehensive.												
Attendance:	Attendance is required. You are allowed three personal drops throughout the semester for any reason – no documentation required. The fourth missed class will result in a 3% reduction in your final grade, the fifth missed class will result in a 6% reduction in your final grade, and the sixth missed class will result in a 9% reduction in your final grade. Being late for class is considered an absence at the instructor's discretion. For example, if you earn 85% of the total points but miss six classes, your final grade will be a 76%.												
Field Trip Report:	Individual Field Trip Reports will be submitted on the class day immediately following a field trip. Reports will be graded for completeness. Blank Field Trip Reports are found on the class website.												
Volunteer Hours:	It is expected that you will participate in a construction project during the semester. Rebuild Gainesville will coordinate your time. Groups of 10 students will take on individual projects. You will be responsible for supporting the estimate, build, and close-out of paperwork. Teams will receive a team grade, as well as a separate grade based on the self-evaluations of team members and group evaluations.												
Grade Makeup:	Final grades will be on a similar scale as follows, depending on work covered during the semester (pts are total possible) – Points in E-learning may not reflect your weighted grade: <table><tbody><tr><td>Three in-term exam grades @ 100 points</td><td>300</td></tr><tr><td>Final exam</td><td>100</td></tr><tr><td>Team Field Trip/Project Reports</td><td>50</td></tr><tr><td>Sketchup</td><td>50</td></tr><tr><td>Volunteer Hours</td><td>25</td></tr><tr><td>Leadership Assignments/Homework/Quizzes</td><td>25</td></tr></tbody></table> Note Attendance Potential Deductions	Three in-term exam grades @ 100 points	300	Final exam	100	Team Field Trip/Project Reports	50	Sketchup	50	Volunteer Hours	25	Leadership Assignments/Homework/Quizzes	25
Three in-term exam grades @ 100 points	300												
Final exam	100												
Team Field Trip/Project Reports	50												
Sketchup	50												
Volunteer Hours	25												
Leadership Assignments/Homework/Quizzes	25												
Extra Credit:	Select one of the optional books for a maximum of 15 bonus points. Due week 9 of the semester. Min four pages single-spaced with references. The paper should cover your reasons for choosing the construction or superintendent track.												
Quality:	It is expected that all submissions for a grade will be professional, with correct spelling and grammar. Regarding homework and quizzes, 10 points are awarded for going above and beyond what is asked, 8-9 points for meeting the minimum expectations, and 5-7 points for quality work that may not be entirely correct in scope. When available, use software to produce your work. The goal is for all work to represent what you would fax/submit to your immediate boss in a job scenario. There is no credit for submitting late work. I will drop the lowest score for each type of assignment (i.e., quizzes, homework, codebook quizzes).												

BCN 3224 – Construction Techniques

Late Work:

Late Work will be accepted at 50% of the potential points, provided it is submitted no later than the start of the next scheduled class. Any missed exam must be accompanied by documentation explaining the cause and must be taken before the beginning of the second scheduled class from the time of the missed exam.

Material Fees

\$35.50 per student

Course Calendar

BCN 3224			
*Schedule subject to change			
WK	Outside Work	Course Topics - Mehta Chapters	Assignments
1	Harvard Business Review Procore University Florida Code Book (IBC) BluBeam	Welcome	Download BluBeam Survey Lab
2		Mehta 1 - 5 Mehta 11-12	Roles/Responsibilities Sitetwork / Foundations
3	Review Heavener Plans Files on Canvas	Guest Lectures	Baker Concrete Holder Construction
4	Coonstruction Economic Readings	Career Fair	Survey Lab
5	Effective executive Bluebeam videos	Mehta 21-23	Concrete
6	Leaders really do Bluebeam cpii	Exam 1	J1 Field Trip
7	Work of leadership Bluebeam cpii	Mehta 18-19	Steel Steel Erection Plan
8	Led by you Bluebeam cpii	Mehta 27-29	Exterior Envelope Tools/Perry/Yard
9	Crucibles	Exam 2	Homecoming
10	Procore Certification	Mehta 33-24	Roofing Low Roofing High
11	Level 5 leadership Heavener plans	Mehta 13-16 / 20	Wood Framing / Metal Framing Framing Cube
12	Authentic leadership Heavener plans	Mehta 36-37	Floors and Ceilings
13	Incomplete leader	Exam 3	Exam 3
14	Codebook	Fall or Spring Break	Break Week
15	Codebook	Mehta 10	Sustainability
16	Codebook	Final Exam Review	Final Exam

