

# Construction Capstone Project

BCN 4787C

T, R Period 2-3 (8:30 – 10:25 AM)

Spring 2024

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Office hours are M/W between 2:00 – 4:00 PM or by or by appointment

## Course Description:

This course simulates the construction process, and each student is responsible for designing, developing, estimating, scheduling, contracting and administering the work for the completion of a small commercial, residential or light industrial project.

## Course Learning Outcomes (CLOs):

Upon completion of the course, students will demonstrate their ability to:

1. Formulate the overall design of the project and prepare a 3D virtual model.
2. Perform quantity takeoffs and develop a complete estimate of project costs.
3. Organize the elements of the project into a viable construction work plan and schedule.
4. Set up a project administration system for contracts, a schedule of values and monthly payment applications.
5. Organize, present, and defend the technical and financial data of the project.
6. Prepare a project proposal from a commercial development and investment perspective.

Additional information on the BCN undergraduate learning outcomes is available at:

[https://catalog.ufl.edu/UGRD/colleges-schools/UGCMN/CM\\_BSCM/#academiclearningcompacttext](https://catalog.ufl.edu/UGRD/colleges-schools/UGCMN/CM_BSCM/#academiclearningcompacttext)

For this course, the CLOs will be evaluated according to the table below.

Course Learning Outcome (CLO)	Assignment(s)	Student Learning Outcome (SLO)		Percent students passing with a
		SACS	ACCE	70% or higher
1. Design and model project	Assignment 5	1	10, 18, 19	70%
2. Perform takeoff and estimate costs	Assignment 6	2	4	70%
3. Organize work plan and schedule	Assignment 7	3	3, 5, 8, 16	70%
4. Set up project administration system	Assignments 9-12	4	7, 10	70%
5. Present technical and financial data	Proposal Presentation	5	2	70%
6. Prepare project proposal	Assignments 1-4, 8		1, 9, 12, 18	70%

SACS = Southern Association of Colleges and Schools, ACCE = American Council for Construction Education

## Required Texts:

There are no required textbooks for this course. All text materials will be provided electronically.

### Course Schedule:

<b>Wk.</b>	<b>Date</b>	<b>Topic</b>	<b>Assignment Due*</b>
<b>1</b>	1/9 (T)	Introduction	
	1/11 (R)	Assignment 1: Site selection, Part 1	
<b>2</b>	1/16 (T)	Assignment 1&4: Financial feasibility, Part 1	
	1/18 (R)	Assignment 1: Site selection, Part 2 <i>Guest lecture: Tim Becker</i>	
<b>3</b>	1/23 (T)	Assignment 2: Conceptual estimate	
	1/25 (R)	Assignment 4: Financial feasibility, Part 2	
<b>4</b>	1/30 (T)	Assignment 4: Financial feasibility, Part 3 <i>Guest lecture: Tim Becker</i>	
	2/1 (R)	Assignment 3: Sustainability	
<b>5</b>	2/6 (T)	Working Day	
	2/8 (R)	Assignment 5: Design drawings	Assignments 1-4 due
<b>6</b>	2/13 (T)	Working Day	
	2/15 (R)	Working Day	
<b>7</b>	2/20 (T)	Assignment 6: Project estimate	
	2/22 (R)	Working Day: Using RS Means Online	
<b>8</b>	2/27 (T)	Assignment 7: Project schedule	
	2/29 (R)	Working Day: Microsoft Project	Assignment 5 due
<b>9</b>	3/5 (T)	Assignment 8: Proposal and qualifications	
	3/7 (R)	<i>Guest lecture: Dave Schmit</i>	
<b>10</b>	3/12 (T)	<i>Spring Break (No Class)</i>	
	3/14 (R)	<i>Spring Break (No Class)</i>	
<b>11</b>	3/19 (T)	Assignment 9: Contracts	Assignments 6-8 due
	3/21 (R)	Working Day (On your own – No Class)	
<b>12</b>	3/26 (T)	Overview of Proposal Presentation	
	3/28 (R)	<i>Guest lecture: Cydney McGlothlin</i>	
<b>13</b>	4/2 (T)	Assignment 10: Payment applications	
	4/4 (R)	Assignment 11: Change orders	
<b>14</b>	4/9 (T)	<i>Proposal Presentations</i>	
	4/11 (R)	<i>Proposal Presentations, continued</i>	
<b>15</b>	4/16 (T)	Assignment 12: Close out	
	4/18 (R)	Working Day	
<b>16</b>	4/23 (T)	Finalist Presentations	Assignments 9-12 due

\* Due at the start of class. Schedule is subject to change.

### Evaluation of Grades:

Two, 2-hour class meetings will be held each week. During these meetings, we will review the expected course deliverables, host relevant guest speakers from the construction industry, and give you an

opportunity to present and receive feedback on the progress of your work. **All work in this course is to be completed individually.** You may consult with your classmates and learn together, but all submitted deliverables must be your own work.

Each deliverable will include 4 assignments. You will prepare each assignment electronically and combine them into a single PDF to upload on the course's e-Learning Canvas website. Grades for each deliverable will be returned within two weeks of the submission deadline. Errors that carry over into future deliverables must be corrected in the next submission.

Final grades will be calculated based on the following weighting:

*Feasibility phase assignments*

1: Site selection	80
2: Conceptual estimate	90
3: Sustainability	40
4: Financial feasibility	60

*Pr construction phase assignments*

5: Design drawings	90
6: Project estimate	90
7: Project schedule	100
8: Proposal and qualifications	50

Proposal Presentation	150
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*Construction phase assignments*

9: Contracts	50
10: Payment applications	75
11: Change orders	75
12: Close-out	50

You are responsible for addressing grades within one week of the grade being posted on the course's e-Learning website. After one week, the grade stands for the class regardless of cause or circumstance.

**Grading Policy:**

Final grades will be assigned according to the following scale. Divide the total points you earn by the total possible points to obtain your percent. Decimal points will not be rounded.

Percent	Letter Grade	Grade Points
93.0 - 100	A	4.00
90.0 - 92.99	A-	3.67
87.0 - 89.99	B+	3.33
83.0 - 86.99	B	3.00
80.0 - 82.99	B-	2.67
77.0 - 79.99	C+	2.33
73.0 - 76.99	C	2.00
70.0 - 72.99	C-	1.67
67.0 - 69.99	D+	1.33
63.0 - 66.99	D	1.00
60.0 - 62.99	D-	0.67
0 - 59.99	E	0.00

More information on grades and grading policies at UF is available at:

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

**Class Attendance and Make-Up Policy:**

Attendance is strongly encouraged. You are responsible for all material presented in class, lecture notes on the course's e-Learning website, handouts, guest speakers, and anything said or written by the instructor. Working days are provided on the schedule for your benefit. Use that time to ask questions and receiving one-on-one assistance from the instructor and TAs.

Allowing some students extra time to complete assignments, while others are delivered on time is inherently unfair. Therefore: **ALL LATE ASSIGNMENTS ARE PENALIZED**, regardless of the reason. You should consider each due date as firm deadline, in a similar fashion to submitting a bid. The following rules apply to all assignments:

- Each assignment must be submitted **AT THE START OF CLASS** on the given due date to receive full credit, **NOT** by the end of class and **NOT** by the end of the business day.
- Late submissions receive an automatic 20% reduction for each class period late. For example, if an assignment is due on Tuesday, and you do not turn it in at the beginning of class, you have until the beginning of the next class (Thursday) to turn it in for a -20% reduction. You'll receive a 40% reduction if you wait until the following Tuesday, and so on.
- Partial submissions are unacceptable. If your submission is missing part of an assignment, that assignment will earn 0 points. Once the deadline passes for a submission upload, you cannot add missing items. Therefore, it may be better to wait until the entire package is finished than turn in incomplete work.
- Your proposal presentation may **NOT** be given late. A presentation schedule listing the date and time for your presentation will be distributed one week in advance. If you miss the allotted time, you will receive a 0 for the presentation grade.

Requirements for attendance, make-up exams, assignments and other work in this course are consistent with UF policies found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

**Students Requiring Accommodations:**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. 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.

### **Course Evaluation:**

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 <https://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 <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>. 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 <https://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 <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### **Class Demeanor:**

It is expected that everything submitted for a grade will be professional, with correct spelling and grammar. The expectations and caliber of the work expected in this course are elevated to the level of the business community and evaluated against that baseline. Work that may have been previously accepted during your academic career may no longer be acceptable here. When available, use software to produce your work. If your work product is considered unacceptable in the workplace, then it is unacceptable here. The goal is for all work to represent what you would submit to your immediate boss in a job scenario. If your boss won't accept, then we won't either.

This course has been taught for many years and as a result there may be a temptation to “rely on the work of others” for inspiration. Should the instructor determine that a student's work is substantially similar to that of another (either past or present), the student may be subject to a rejection of that assignment and will be cited with an honor court violation. Similarly, the use of materials, worksheets, or data from previous semesters is considered cheating. Your work is subject to electronic verification by TurnItIn® or other technologies.

### **University Honesty Policy:**

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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.” The Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions (<https://www.dso.ufl.edu/sccr/process/student-conducthonor-code/>). Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### **Counseling and Wellness Center**

Contact information for the Counseling and Wellness Center is available on the web at <http://www.counseling.ufl.edu/cwc/Default.aspx> or by phone at (352) 392-1575; and the University Police Department: (352) 392-1111 or 9-1-1 for emergencies.