

**BCN 4720 Construction Planning & Control**  
M.E. Rinker Sr. School of Building Construction  
University of Florida

**SYLLABUS**

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**Professor:** Mark Russell, PhD, PE

**Office:** 311 Rinker Hall

**Office Hours:** M -F 13:55 – 16:00 or by appointment

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**PREREQUISITES:** CGS 3531, BCN 3224, BCN 3611, Senior standing

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**SUBJECT:** The planning, control, and monitoring of construction projects including the use of the Critical Path Method (CPM).

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**COURSE LEARNING OUTCOMES:**

1. Analyze construction documents for planning and management of construction processes. (ACCE SLO 7)
2. Assign and analyze resource requirements of a project (ACCE SLO 5)
3. Prepare, analyze, and update bar charts and critical path method networks (ACCE SLO 5)
4. Prepare various construction scheduling reports (ACCE SLO 2)
5. Apply state-of-the-art computer tools for project planning, scheduling, and control (ACCE SLO 10)
6. Perform time/cost trade-off analyses (ACCE SLO 5)
7. Create oral presentations of construction schedules (ACCE SLO 1 & 2)
8. Understand earned value method for project schedule and cost control (ACCE SLO 14)

Assessment	CLO 1	CLO 2	CLO 3	CLO 4	CLO 5	CLO 6	CLO 7	CLO 8	Target
Test						X		X	At least 80% receive C-or better
Presentation							X		At least 80% receive C-or better
Final Project	X	X	X	X	X				At least 80% receive C or better

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**EXPECTATIONS:**

BCN 4720 is a Senior 1 course. The instructor expects that students will be able to learn and assimilate materials on their own. Students are also expected to comport themselves in a professional manner. Specific expectations for students include:

1. Students should review course material on their own outside of class.

2. Students should be on time to class and participate actively in course discussions. In class, students are expected to be courteous and respectful of the views and needs of other students and instructors.
3. Students should work on in-class assignments as if they were job assignments. At any time, the instructor may call upon students to present their work to the class.
4. The use of tobacco or vapor products is strictly prohibited in class.
5. The use of laptops, smart phones, ipads, etc. is forbidden in class except for specific class assignments. Silence all electronic devices prior to class.

**METHOD OF INSTRUCTION:**

The course consists of 3 hours of Zoom classroom time per week including in-class assignments, labs, and take-home exercises. Students will work on in-class examples, workshops, and a seven projects outside of class.

Students will work individually unless a specific project calls for team assignments.

**ATTENDANCE:**

Attendance is mandatory. School sponsored activities in which the appropriate faculty coach has provided a previous written notification of the activity will warrant an excused absence.

As an online class, it is understandable that at times you will be unable to attend the classroom time Zoom broadcast. To receive credit for that week's attendance, you will be expected to participate in the weekly Discussion Board. When participating in the weekly Discussion Board, you should watch all course related material including the Zoom lecture and then post a summary comment on the Discussion Board of at least 100 words.

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

**GRADING:**

The point value for each assignment will be clearly indicated when assigned.												
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
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

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

There is no rounding up of grades

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**LATE WORK:**

Allowing some persons extra time to complete assignments while others are on time is inherently unfair. Therefore: ALL LATE WORK IS PENALIZED, regardless of the reason.

- -10% for each class period late. For example, if an assignment is due on Wednesday, and you do not turn it in, you have until the beginning of the next class (Friday) to turn it in for a -10% reduction. You'll receive a 20% reduction if you wait until the following Wednesday.
- Once an assignment has been graded and returned to the class, no more late assignments will be accepted.

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**HONOR CODE:**

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 (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-cde/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. 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.

The Rinker School prides itself in "Promoting professional and ethical behavior in education and practice." As students continue their academic careers in the Rinker School, it is imperative that everyone maintains a high level of integrity. In the classroom setting, this translates into honest work being performed by all students.

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**PLAGIARISM:**

This course has been taught for many years and as a result there may be a temptation to "rely on the work of others." 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. The student understands that their work is subject to electronic verification by Turnitin® or other technologies.

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**STUDENTS WITH DISABILITIES:**

Students with disabilities requesting accommodations should first register with the Disability Resources Center (352-392-8565 or [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.

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**COUNSELING:**

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.

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**EVALUATIONS:**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <http://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

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**SOFTWARE:**

*DO NOT PURCHASE ANY SCHEDULING SOFTWARE AT THIS TIME*

Students **MUST** have a laptop computer available for use in class.

Students **MUST** have access to a printer other than the BCN labs. Lack of BCN facilities is no excuse for missed or late assignments.

Students **SHOULD** have access to a color printer since assignments are marked down 10% if presented in black & white.

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**CANVAS:**

This course utilizes Canvas as a repository for all course material including lecture notes, quizzes, forms, tutorials, and grades. It is the student's responsibility to take advantage of the university resources to learn how to utilize Canvas.

Periodically the instructor will communicate with the class via e-mails from Canvas. Please note: Do not respond to these e-mails. If you need to communicate use the instructor's e-mail: [russ1307@ufl.edu](mailto:russ1307@ufl.edu).

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**GRADING:**

Project related grades	30%
Workshops/homework	10%
Attendance or Discussion Forum	10%
Tests	20%
Final Team Project	15%
Final Individual Project	15%
Total	100%

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**SPECIAL NOTES:**

1. All assignments must be turned in hard copy format. Having the assignment on your computer, memory stick, or e-mail IS NOT ACCEPTABLE and does not substitute for turning in the assignment. Printing your assignments is totally your responsibility. The BCN lab is there for your convenience, however you are not excused from turning in your assignments if there are problems in the labs.
  2. MS Project assignments are to be in color. Black & white submittals will be marked down 10%.
  3. Work considered unacceptable in the workplace is unacceptable here. If your boss won't accept it, neither will I.
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**SCHEDULE:**

Week	Topics
1	Lecture: INTRODUCTION TO SCHEDULING
2	Lecture: UNDERSTANDING LOGIC
3	Lecture: CPM CALCULATIONS
4	Lecture: RESOURCE PLANNING
5	Lecture: PRECONSTRUCTION & PROCUREMENT SCHEDULES
6	Lecture: RESOURCE LEVELING
7	Lecture: GENERAL CONDITIONS
8	Lecture: REPORTING PROGRESS

9	Lecture: BUDGETING & CASH FLOW ANALYSIS
10	Lecture: EARNED VALUE ANALYSIS
11	Lecture: P6
12	Lecture: GROUP PRESENTATIONS
13	Lecture: CRASHING THE SCHEDULE
14	Lecture: TIME/COST TRADEOFF
15	Lecture: LINEAR SCHEDULING