

**University of Florida - M.E. Rinker, Sr. School of Construction Management
BCN 3255C – Computer and Graphic Communications (3 Credits)**

Fall 2017 Syllabus – (*Graduate Student Section*)

Instructor:	Nathan Blinn Room 338 Rinker Hall nblinn617@ufl.edu
Class Details:	Tuesday & Thursday, 8:30 AM – 10:25 AM (Periods 2-3) RNK 240
Office Hours:	Monday, Period 4 (10:40AM – 11:30AM) Thursday, Period 4 (10:40AM – 11:30AM)
Course Website:	Canvas - https://ufl.infrastructure.com/
Contact:	Please use the mail tool in canvas for course related questions so that relevant questions can be posted for others in the course to view. For personal questions feel free to email me directly.
Prerequisites:	BCN 1251 – Construction Drawing or previous experience with plan reading or 3D modeling.

Course Description

This course exposes students to graphic communication tools within the construction industry, as well as building information modeling (BIM). In an increasingly digital world printed media is becoming less common, however the ability to interpret drawings and specifications from variety of media is crucial to a projects success. The goal of this course is to develop the students understanding of how these graphic communication tools can be applied during the construction management process to aid in project success.

Course Objectives

Through this course students will develop the ability to interpret construction documents, both in printed and digital form. Additionally, a basic understanding of building information modeling (BIM) techniques and applications within the construction industry will be established.

Course Method

This course will be conducted with a two period session of lecture, followed by a two hour period of lab. You are expected to follow along during the lecture and take notes in order to apply the new concepts to your assignments during the lab period. The lab period will be a workshop style time where you are expected to work on the assignment and ask questions to help you successfully master each topic.

Course Learning Outcomes

Successful completion of this course will demonstrate the student's ability to:

- ✓ Read, understand and use construction documents (construction drawings and project specifications) (SACS 5, ACCE SLO 7, 8)

- ✓ Use building information modeling (BIM) technology for preconstruction modeling (SACS 5, ACCE SLO 10)
- ✓ Visualize a building and construction process by creating a building information model of a selected building (SACS 5, ACCE SLO 7, 8, 10)
- ✓ Recognize the possibility for using BIM for estimating, scheduling, facility management, and energy analysis (SACS 5, ACCE SLO 10)

SACS = Southern Association of Colleges and Schools
 ACCE = American Council for Construction Education
 SLO = Student Learning Outcome

SACS 5: Communicate technical and financial data effectively in speech and in writing to all stakeholders in the construction process.

ACCE SLO 7: Analyze construction documents for planning and management of construction processes.

ACCE SLO 8: Analyze methods, materials, and equipment used to construct projects.

ACCE SLO 10: Apply electronic-based technology to manage the construction process.

Course Resources

- Drawing sets and specifications will be provided through the courses canvas page. Materials may not be posted until the day prior to the lecture or earlier if review is needed prior to your attending class.
- Autodesk Revit 2018 manuals, guides and data sets are available to supplement material provided in class.
- Lynda.com has a well-produced series of Revit tutorials which you are encouraged to view and work with to further supplement course material.

Required Equipment and Software

- Laptop
 Laptops are a requirement for all Rinker school students and as such each student is expected to complete work on their own laptop. Your laptop is expected to meet the minimum requirements established by the school and be able to run the software for this course. In the event of a technical problem with your laptop you are expected to inform the instructor as soon as possible and are permitted to use the computers in the Rinker School computer lab on the second floor. The use of someone else's computer is not permitted for work during this course and is a violation of the Rinker School policy.

To review the schools computer requirement and find additional information here:

<http://www.bcn.ufl.edu/computer-requirement/>

- Mouse: The use of a laptops trackpad is not acceptable for modeling purposes and the navigating drawing sets during this course.
- Autodesk Revit 2018

This software can be downloaded through the Autodesk Education Community at no charge to you. If you do not already have an account please follow the link below to create an account and download the required software.

<http://www.autodesk.com/education/home>

Grading Criteria

▪ Attendance	5%	50 pts
▪ Industry study	15%	150 pts
▪ Lab/Homework	30%	300 pts
▪ Final Project	30%	300 pts
▪ Final Exam	<u>20%</u>	<u>200 pts</u>
	100%	1000 pts

The grades will be computed according to the following scale:

A	90.0 AND ABOVE	C	70.0 to 76.9
A-	87.0 to 89.9	C-	67.0 to 69.9
B	80.0 to 86.9	D	60.0 to 66.9
B-	77.0 to 79.9	F	Below 60

Attendance

Attendance is mandatory. During each class or lab, assignments will be handed out and instruction will be given for its proper completion. You are expected to work on these assignments during class with ample opportunity to ask questions and receive guidance. There will be no makeup classes provided and you should make arrangements to discuss the missed session with a classmate. If you are going to miss a class for an excusable reason please discuss it with the instructor beforehand in order to make arrangements.

Industry Study

Communication tools in the construction industry are evolving and new technology is always emerging which hopes to improve the way project teams interface. This interaction often starts between the owner and an architect but by the end of a project visions and designs will have been shared with many entities including the construction managers. Research an emerging technology or communication tool related to the sharing of construction documents, specifications or ideas between the members of a project team. Sources can include product websites, product literature and/or scholarly articles. Write a two page review of the technology you have researched and provide conclusion as to the possible impact it may have on the construction management process. The review shall be typed in 12pt Times New Roman font, with standard margins, and should be single spaced. Please include the source of your information and have fun discovering new concepts which may influence your career.

Lab/ Homework Assignments

There will be a total of eight assignments throughout the course of the semester. The assignments will reinforce the skills and concepts you learn in class. They will allow you to apply your knowledge on a real world project and test your skills. All assignments shall be completed on an individual basis and submitted on the courses canvas site by the assigned due date. Late assignments will be reduced by 50%. In this regard please be sure to submit your work

on canvas early to avoid being late due to possible computer glitches while you are uploading your assignment.

Final Project

The final project will be the development of a set of drawings for a house being built for a residential “client”. A set of performance or prescriptive specifications will be provided to guide you as you develop a detailed BIM of the client residence. Once the BIM is developed you will be expected to create a drawing set which meets the requirements laid out in the specifications. A pdf of the completed drawing set, as well as the BIM, will be submitted on the courses canvas site by the due date.

Final Exam

The final exam will take place at the assigned date and time with no make-up exam option. Failure to attend the final will result in a failing grade.

Class Schedule

Week	Date	Topic	Assignment Due Date
1	8/22	Lecture 1: Introduction and Course Overview Introduction to plan reading, drawing organization, CSI Divisions, schedules	Assignment L1 Due: 8/28
	8/24	Lab 1: Page turn of drawing sets, nomenclature and organization.	
2	8/29	Lecture 2: Drawing types, abbreviations and intended visualization scope.	Assignment L2 Due: 9/4
	8/31	Lab 2: Project specifications and relationship to drawing sets.	
3	9/5	Lecture 3: Introduction to BIM and VDC processes in construction.	Assignment L3 Due 9/14
	9/7	Lab 3: Introduction to BIM and VDC processes in construction.	
4	9/12	Lecture 4: Revit – Starting a new project, creating grid lines, creating levels and understanding families.	Assignment L4 Due: 9/18
	9/14	Lab 4: Revit – Starting a new project, creating grid lines, creating levels and understanding families.	
5	9/19	Lecture 5: Revit – Drawing walls and floors. Understanding element properties types and interpreting schedules.	Assignment L5 Due: 9/25
	9/21	Lab 5: Revit - Drawing walls, floors and ceilings. Understanding element properties types and interpreting schedules.	
6	9/26	Lecture 6: Revit – Placing wall fenestrations, drawing curtain walls roofs and ceilings.	Assignment L6 Due: 10/2

	9/28	Lab 6: Revit - Placing wall fenestrations, drawing curtain walls, roofs and ceilings.	
7	10/3	Lecture 7: Revit – Drawing stairs, railings, ramps and sweeps/reveals.	Assignment L7 Due: 10/9
	10/5	Lab 7: Revit - Drawing stairs, railings, ramps and sweeps/reveals.	
8	10/10	Lecture 8: Revit – Element/ room tagging and dimensioning.	Assignment L8 Due: 10/16
	10/12	Lab 8: Revit - Element/ room tagging and dimensioning.	
9	10/17	Lecture 9: Revit – Creating sections, callouts and element/ material schedules.	Assignment L9 Due: 10/23
	10/19	Lab 9: Revit - Creating sections, callouts and element/ material schedules.	
10	10/24	Lecture 10: Revit – View management and sheet development.	Assignment L10 Due: 10/30
	10/26	Lab 10: Revit - View management and sheet development.	
11	10/31	Final Project: Handout and review final project performance specifications.	Industry Study Due: 11/2
	11/2	Final Project Lab: Client Residence	
12	11/7	Final Project Lab: Client Residence	Final Project Due: 12/5
	11/9	Final Project Lab: Client Residence	
13	11/14	Final Project Lab: Client Residence	
	11/16	Final Project Lab: Client Residence	
14	11/21	Final Project Lab: Client Residence	
	11/23	***NO CLASS*** Thanksgiving Break	
15	11/28	Final Project Lab: Client Residence	
	11/30	Final Project Lab: Client Residence	
16	12/5	Final Project: Last review and DUE DATE	
	12/12	FINAL EXAM (7:30AM – 9:30AM) RNK 240	

-This course schedule represents my current plan of study. In order to offer the best learning opportunities these plans may vary. Any changes will be clearly articulated and are not out of the ordinary.-

Honor Code

- Throughout this course you are expected to follow the University Honors Policy when working on all assignments, homework, projects, and exams. Please read and agree to this statement:

"I understand that the University of Florida expects its students to be honest in all of their academic work. I agree to adhere to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action, up to and including expulsion from the University."