SYLLABUS
Department of Construction Management and Engineering
North Dakota State University
CM&E 203 – Building Construction: Methods and Materials (Class# 10627)
Spring 2011
T, TH, 10:00 am – 11:15 am
CIE 102

Instructor: Dr. Jongchul Song, Assistant Professor
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Catalogue Description
Fundamentals of building construction, materials, and methods for residential and commercial construction.
Prereq: Construction Management major, CM&E 200 Construction Documents and Codes.

Text/Materials Required
Textbook:
Fundamentals of Building Construction: Materials and Methods, ISBN 0-471-21903-7, Edward Allen and Joseph Iano, 4th Edition, John Wiley & Sons, Inc, 2004.

Course Objectives
The objectives of this course are:
1. To become aware of building systems (foundation, floor, wall, roof, structural, etc.) that are used in residential and commercial construction.
2. To become familiar with construction materials and their varied applications.
3. To understand current systems, practices and processes of building construction.
4. To develop the skills necessary to work in group or team projects.

Grading
Your course grade will consist of the following elements:

In-Class Exercises (10 @ 1% each)	10%
Quizzes (2 @ 15% each)	30%
Final Exam	30%
Group Term Project	30%

The following percentages are guaranteed to receive at least the indicated grade:

- > = 90 % A
- > = 80 % B
- > = 70 % C
- > = 60 % D
- < 60 % F

The instructor reserves the right to relax these grade levels at a future date, but in no circumstance will the grade levels be raised (i.e., 89 % will never be less than a B but may be raised to an A for everyone, at the instructor's discretion).

Course Requirements, Policies and Procedures

Attendance and In-Class Participation

- Although class attendance is not recorded or given credits toward the overall course grade, class attendance and participation are expected at all regularly scheduled class times as they are critical to every student's success in this course.
- Late arrivals disrupt lectures and discussion. Avoid being late and be considerate of the class if it has started. Lecture material will not be repeated once a class is in progress.

In-Class Exercises (total 10%: 10 @ 1% each)

- There will be a total of 12 (twelve) in-class exercises for the course. There will be NO credit given for: 1) missed in-class exercises, or 2) worksheets that are handed in past the due date. No make-ups will be allowed, and two exercises with the lowest scores will not be included for calculating the overall course grade.
- During in-class exercises, students may consult with each other in the class. However, everyone is required to *individually* complete the assigned exercise and sign and turn in his or her own worksheet.

Quizzes (total 30%: 2 @ 15% each)

- There will be a total of two quizzes. The quizzes will be open-book and open-notes.
- Multiple-choice and knowledge type questions with short answers, derived from lectures, in-class activities, and textbook readings, will comprise the quiz.
- If you miss a quiz without either a certified medical excuse or prior instructor approval, then you will receive a ZERO for that test. Tests missed with a certified medical excuse or prior instructor approval will be dealt with on an individual basis.

Final Exam (30%)

- A final exam will be held on May 17, Friday, 10:30 a.m.-12:30 p.m., as indicated at the University Final Exam Schedule: http://www.ndsu.edu/fileadmin/registrar/finals/201011.pdf.
- The final exam will contain similar types of questions to quizzes but will be *cumulative* so it may require integration of multiple knowledge areas and their applications. The final exam will be open-book and open-notes.
- If a student is unable to take the final exam at the scheduled time, the instructor must be contacted in advance. "No student shall be obligated to take more than three (3) final examinations on the same calendar day. In the event that a student has four (4) or more final examinations on the same calendar day, the student shall notify the instructor(s) from the highest numbered course(s) no later than two weeks before the last day of class to schedule a make-up examination to be administered at a mutually acceptable time."
- If you miss the final exam without either a certified medical excuse or prior instructor approval, then you will receive a ZERO for the final exam.

Group Term Project (30%: selection note 1%; written report 14%; oral presentation 15%)

For a term project, students in groups of three to four will identify **ongoing** building construction projects and study methods and materials used in the construction. The term project is to improve and enrich student learning by providing them with the opportunity to learn about the "real world" outside of the classroom. At the end of the semester, each group is required to submit a written report of their study and make oral presentations (schedule for oral presentations to be determined). A tentative set of guidelines and requirements for the term project is as follows:

- Each group of three to four students selects a building project under construction. It is possible that different groups select the same project, given the large class size and potentially a limited number of ongoing construction projects located in town.
- Each group is required to submit a summary note (1% of the course grade; see TP Note in the course schedule for due date) that contains the following information on the selected project, along with names of all group members:
  - Name of the project, architect, and contractor
  - Location of the construction site, and size of the building (in square foot and number of stories)
  - Brief description of construction status at the time of selection (e.g., earthwork is going on, structural framing just started) and a picture taken thereof
  - Construction work expected over the next two months or so
- Throughout the semester, each group will make opportunistic observations on or near the job site of construction work going on and relate the observations to what they learn in classroom and from textbook and to any prior experience/knowledge.
- Students are encouraged to ask questions to site personnel regarding any differences between what they see on site and what they learn in classroom or know from previous experience.
- If students visit a job site, they will be responsible for required safety gear.
- All group members need to make contributions toward the term project, and at the beginning members of each group may well make arrangements as to who is out to the site and when.
- Each group submits a written report that (1) describes construction methods and materials they have seen on job sites, (2) rationalizes why those methods and materials had been chosen, and (3) proposes alternative methods and materials that are deemed suitable. Limit the report to 30 pages excluding a cover.

Students with Disabilities (ADA Statement)
Any student with disabilities or other special needs, who need special accommodations in this course, is invited to share these concerns or requests with the instructor as soon as possible.

Academic Honesty Statement
All work in this course must be completed in a manner consistent with NDSU University Senate Policy, S ection 335: Code of Academic Responsibility and Conduct (http://www.ndsu.nodak.edu/policy/335.htm) and the CEA Honor System available at http://www.ndsu.nodak.edu/ndsu/cea/.

Blackboard http://blackboard.ndsu.nodak.edu
Blackboard will be used to post announcements, course information (e.g., syllabus) and documents (e.g., class notes, answers to in-class exercises and to quizzes/final exam). On a regular basis, you will need to login and check for announcements and download course documents. Your Blackboard username is your NDSU electronic ID (Firstname.Lastname), and your password is your NDSU email password.

Course Schedule (Tentative)

NOTE: Students should expect changes to this tentative schedule and are responsible for adapting to the changes.

Class WK#	Date		Topic	Textbook Chapter	In-Class Exercise/Due
1	Jan	11	*Course Introduction*		
		13	Making buildings	1	
2		18	Foundations	2	
		20	Foundations	2	EX#1
3		25	Concrete	13	
		27	Sitecast concrete framing	14	EX#2
4	Feb	1	Sitecast concrete framing	14	
		3	Precast concrete framing	15	EX#3
5		8	Structural steel framing	11	
		10	Structural steel framing	11	EX#4
6		15	Wood	3	
		17	Heavy timber framing	4	EX#5
7		22	Wood light framing	5	
		24	**Quiz I**		
8	Mar	1	Wood light framing	5	EX#6
		3	Masonry (Brick, Stone, Concrete)	8 & 9	
9		8	Masonry loadbearing wall construction	10	EX#7
		10	Light gauge steel framing	12	EX#8/ **TP Note**
10		15*	*Spring Break*		
		17*	*Spring Break*		
11		22	Designing cladding systems	19	
		24	Cladding with masonry and concrete	20	EX#9
12		29	Cladding with metal and glass	21	
		31	Exterior finishes for wood light frame	6	EX#10
13	Apr	**5**	**Quiz II**		
		7	Glass and glazing	17	
14		12	Windows and doors	18	
		14	Roofing	16	EX#11
15		19	Selecting interior finishes	22	
		21	Interior walls and partitions	23	EX#12
16		26	Ceiling and floor finishes	24	
		28	Interior finishes for wood light frame	7	**TP Report**
17	May	3	*Course review (mock final exam)*		
		5	*Group term project presentations*		
Final		**17**	**Final Exam** 10:30 a.m.-12:30 p.m.		