

Course Syllabus

1. Course Number and Name

CE 414: Construction Engineering

2. Course Information

- Semester: Spring, 2015
- Schedule: TR, 9:30 am – 10:45 am
- Class Location: MRB-E 205
- Credit Hours: 3

3. Instructor Information

- Name/Position: Yoojung Yoon/Assistant Professor
- Office: ESB 539
- Phone: 304-293-9937
- Email: yoyoon@mix.wvu.edu (Preferred)
- Office Hours: TR, 11:00 am – 12:30 pm

4. Course Description

Introduction to the construction processes (e.g., construction planning, design, and construction). Construction site layout, earthmoving materials and operations, quantity takeoff, construction equipment and equipment selection, productivity improvement, construction methods and practice, wood/concrete/steel construction, and management of constructed facilities.

5. Prerequisites

None

6. Course Objectives

This course will introduce the students to the fundamental concept of construction engineering and the role of the engineer in the construction process. The course will incorporate instructor lectures, presentations from industry, and field trips. Students will be evaluated based on class participation, homework, and tests.

7. Expected Learning Outcomes – Upon successful completion of this course students will have:

- The basic techniques for planning, design, construction, and maintenance in construction projects
- An insight of the roles as designers, contractors, and project managers
- The ability to plan and analyze earthwork construction
- The knowledge of recent construction methods and practice
- A fundamental knowledge of woos/concrete/steel construction

8. Textbooks and Other Course Materials

- Stephens W. Nunnally. (2011). Construction Methods and Management, 8th edition, Prentice Hall, Upper Saddle River, New Jersey.

Note: **NOT REQUIRED**

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- Mincks R. William and Johnston Hal. (2011). Construction Jobsite Management, 3rd edition, Delmar, Clifton Park, New York.

Note: **NOT REQUIRED**

- Additional reading material for selected topics in the course will be announced or handed out in class

9. Exams/Assignments/Quizzes

Performance will be evaluated based on exams, homework assignments, quizzes, and class participation. There are **three (3) OPEN-BOOK exams** in the course. The exams will test the individual student's understanding of some of the principal concepts covered in the course. The exams cover material discussed in the lectures, or included in the assigned readings up to the time of the exam. There are **four (4) assignments** to be completed individually or in a small group. All students will be expected to make a reasonable effort to find answers on their own or in collaboration with other students in the class, ask questions in a professional manner when necessary, and to hand in assignments which have a professional appearance. Collaboration among the students is encouraged, as long as the integrity of the student's individual work and contribution is maintained (i.e., copying and plagiarism will be severely penalized). There will be **five (5) CLOSED-BOOK quizzes** in class, based on the course material covered in class and/or assigned for the week. The score of one of the quizzes may be dropped.

Note:

- Delayed submission of the assignments will be scored with a 20% deduction.
- Under no circumstances will make-up exams be administered if students miss exams/quizzes. If students miss exams/quizzes due to authorized excused absences (e.g., medical or other similar hardships, family events restricted to wedding and funeral, and job interviews), the opportunity to take make-up exams will be given to the students at an alternate time. It is the student's obligation to contact the instructor before the examination so that appropriate arrange may be made.

10. Grading Policy

The breakdown of the final grade is:

Quizzes	15%
Assignments	15%
Exam No. 1	20%
Exam No. 2	25%
Final Exam	25%
Total	100%

There will be **no curve** for the final grade, only straight averages. The ranges for grades are as follows: **[Above 90.00/ A]; [80.00 – 89.99/ B]; [70.00 – 79.99/ C]; [60.00 – 69.99/ D]; [Below 60/ F]**

11. Attendance Policy

You are expected to attend all classes. If you have a specific problem with attendance, notify the

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instructor prior to the class or the absence will be considered unexcused. A student may have no more than two (2) unexcused absences. In addition, for seniors only, up to a total of three (3) plant trips will be considered excused absences. ***Three unexcused absences will result in a grade reduction of one letter grade. Four unexcused absences will result in a grade of "F"***. Consistent with University guidelines, students absent from regularly scheduled examinations because of authorized University activities will have the opportunity to take the exam at an alternate time. Make up exams for absences due to other reasons will be at the discretion of the instructor.

12. Social Justice Statement

The West Virginia University community is committed to creating and fostering a positive learning and working environment based on open communication, mutual respect, and inclusion. If you are a person with a disability and anticipate needing any type of accommodation in order to participate in this class, please advise me and make appropriate arrangements with the Office of Disability Services (293-6700). For more information on West Virginia University's Diversity, Equity, and Inclusion initiatives, please see <http://diversity.wvu.edu>.

13. Academic Integrity/Honesty

The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter.

14. Adverse Weather Commitment

In the event of inclement or threatening weather, everyone should use his or her best judgment regarding travel to and from campus. Safety should be the main concern. If you cannot get to class because of adverse weather conditions, you should contact me as soon as possible. Similarly, if I am unable to reach our class location, I will notify you of any cancellation or change as soon as possible (by 8:30 am before class starts), using (MIX emails) to prevent you from embarking on any unnecessary travel. If you cannot get to class because of weather conditions, I will make allowances relative to required attendance policies, as well as any scheduled tests, quizzes, or other assessments.

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Tentative Course Schedule

Week	Topic	Readings	Note
1 1/12 – 1/16	Introduction to Construction Engineering		
2 1/19 – 1/23	Construction Process I		
3 1/26 – 1/30	Construction Process I (Quiz-1) Construction Process II		Assignment 1 Issued
4 2/2 – 2/6	Construction Process II	Ch. 6 (CJM*)	
5 2/9 – 2/13	Construction Jobsite Layout	Ch. 6 (CJM)	
6 2/16 – 2/19	Construction Jobsite Layout (Quiz-2) Guest Speaker	Ch. 6 (CJM)	Assignment 1 Due
7 2/23 – 2/27	Exam I (2/26)		No Class on 2/24
8 3/2 – 3/6	Class Discussions on Assignment-1 Earthmoving Materials and Operations	Ch. 2 (CMM*)	Assignment 2 Issued
9 3/9 – 3/13	Earthmoving Materials and Operations (Quiz-3)	Ch. 2 (CMM)	
10 3/16 – 3/20	Earthwork Quantities		Assignment 2 Due
11 3/23 – 3/27	Spring Recess; No Classes		
12 3/30 – 4/3	Earthwork Quantities (Quiz-4) Exam II (4/2)		Assignment 3 Issued
13 4/6 – 4/10	Guest Speaker Construction Equipment (Excavating)	Ch. 3 (CMM)	
14 4/13 – 4/17	Construction Equipment (Excavating) (Quiz-5)	Ch. 3 (CMM)	Assignment 3 Due Assignment 4 Issued
15 4/20 – 4/24	Construction Equipment (Loading & Hauling)	Ch. 4 (CMM)	
16 4/27 – 5/1	Construction Equipment (Loading & Hauling)	Ch. 4 (CMM)	Assignment 4 Due
17 Exam Week	Final Exam on 5/5 (7 – 9 PM)		

*CJM: Construction Jobsite Management

*CMM: Construction Methods and Management