KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

Construction Engineering SYLLABUS			
Course Title	Construction Engineering		
Course Code	CVE4360	**No. of Credits**	3CH
Department	Civil Engineering	**College**	Engineering
Pre-requisites Course Code	CVE3335	**Co-requisites Course Code**	
Course Coordinator(s)	Mr.Sardasht Sardar		
Email	sardasht.sardar@komar.edu.iq	Room No.	238
Other Course Teacher(s)/Tutor(s)	N/A		
Class Hours	T, R (12:00-13:30)		
Office Hours	T,R (10:00-11:30)		
Course Type	Departmental course		
Offer in Academic Year	Spring 2016		

COURSE DESCRIPTION

This course is one of the essential advance civil engineering courses. The course provides the students with the heavy knowledge of construction project process. The material will be considered from the point view of the owner, the designer, or the constructor according to the stage being studied. Although heavy construction is discussed, the focus will be on building construction. Pricing and designing of the contract will be discussed briefly in order to prepare bill of quantity. To emphasize the topics discussed, the course will include a tour of a construction site. The software related to class topics will be explored: Primavera6. Furthermore, course topics are organized in a sequence similar to the actual stages of a project.

COURSE OBJECTIVES

The primary objective of this course is to teach the students the basic concepts of construction engineering, practical process aspects and project management, as well as engineering economics. The course introduces the students to the construction industry, participants in a project and their roles, bid and contract documents, estimating, equipment and productivity, construction methods, safety, health and environmental concerns. The course also provides fundamental information about computer aided software which is related to construction management. The course discusses how projects are constructed and handled.

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COURSE LEARNING OUTCOMES

After participating in the course, you should be able :

1. To understand how construction industry operates including the contracts and designer's bid award (ABET Outcome a).
2. To apply the principles of construction methods and its functions (ABET Outcome e, and k).
3. To apply construction project planning, scheduling, and pricing. (ABET Outcome a, and e).
4. To analyze the importance of construction management including procurement, and estimating (ABET Outcome k).

*****ABET criteria:
http://www.abet.org/eac-criteria-2014-2015/

GUIDELINES ON GRADING POLICY

A	95-100%	**C**	70-74%
A-	94-90%	**C-**	65-69%
B+	87-89%	**D+**	60-64%
B	83-86%	**D**	55-59%
B-	80-82%	**D-**	50-54%
C+	75-79%	**F**	0-49%
W	Withdrawal	**I**	Incomplete

Note: Passing Grade is 65% and above

COURSE CONTENT

1) Contracts and delivery methods.
2) Designer's Bid and award
3) Assemblies estimation
4) Construction method.
5) Detailed estimation.
6) Construction project planning and scheduling
7) Project control and optimization
8) Primavera6
9) Engineering Economics
10) Managing quality
11) Managing health and safety
12) Sustainable construction
13) Green Construction

CLASS REQUIREMENT

1) A scientific calculator, and,
2) Notebook.

COURSE TEACHING AND LEARNING ACTIVITIES

This course will carried out in 3 hours, 2 times lecture per week. The semester has 15-instructional weeks followed by one week of exam. Course instructor will:

- Utilize power point presentation to present the course information.
- The board space to calculate problems with students.
- There will be in class group work, where student will do in class exercises and turn the assignment to the instructor.

COURSE ASSESSMENT TOOLS

Assessment Tool	Description	Weight
Assignments	Four assignments will be conducted during the semester; each assignments will be given as scheduled and posted on Google Classroom (ABET **a,** and **e**).	**10%**
Quizzes	Quizzes are scheduled as shown in the semester schedule. Students will take 5 quizzes; all quiz grades will be counted toward your final grade (ABET **a, e** and **k**).	**15%**
Site Tour Report	Site tour will be held during the semester, the students should prepare the report about the site tour. The students will be divided into groups and each group should prepare and apply one of the tasks which will be given later on the Google classroom. The report should be submitted on week 13. (ABET **a** and **e**).	**15%**
Test	One test will be conducted during the semester and has 15% of the total grade. The test will include multiple-choice questions, True/False, short answers, and problem solving (ABET **a** and **e**).	**15%**
Mid-term Exam	The students should find the mid-term exam easer because it will be similar to the cases studied during the semester, but more updated (ABET **a** and **e**).	**20%**
Final Exam	The final exam will be designed to cover all the students' learning outcomes for this course. It will be a closed book exam and no materials are allowed except the one that will be given by the instructor (ABET **a** and **e**).	**25%**

ESSENTIAL READINGS: (Textbook and References)

Textbook:

Managing the Construction Process, 4e. By Frederick E. Gould. (1997)Prentice-Hall, Inc
ISBN0-13-352337-3

References:

Building Design and Construction Handbook Frederick S. Merritt (Deceased) (2001) Editor Jonathan T. Ricketts Editor
ISBN 0-07-041999-x

Kerzner, H. (2009). *Project Management: A System Approach to Planning, Scheduling and Controlling (10th Edition)*. Hoboken: John Wiley & Sons.

Fewings, P. (2005) Construction Project Management, Taylor&Francis, New York.

COURSE POLICY *(including plagiarism, academic honesty, attendance etc)*

KUST Academic Policy
http://sar.komar.edu.iq/files/Student%20hand%20Book%202013.pdf

Attendance:

- Students are expected to attend all lectures and must attend all examinations, quizzes.
- There is no make-up work for students who miss classes without official permission.
- Student must arrange with the faculty to make-up the missed class.
- Students are subject to the regulation and policies mentioned in the KUST Student Handbook.
- KUST guidelines for lateness are as follows: Three occasions of lateness count as one absence.

(You can be considered late the first minute of the lecture time).

E-MAILETIQUETTEOF COMMUNICATION

Please note the following in regards to e-mail communication:

1) It is your responsibility to update your Komar-email address daily for course updates. Faculty will not be able to contact you if you fail to have an email address and you could potentially miss important information about the course.
2) Email will only be answered if it comes from Komar-email address. Faculty will not respond to unprofessional email addresses.
3) Mail should have a subject heading which reflects the content of the message.
4) Your message should begin with an appropriate salutation, including the name of the person being addressed, and end with thanks followed by your full name of the sender.
5) Emails that do not follow the above guidelines, or are written in an unprofessional and / or disrespectful manner as well as anonymous emails will not be addressed.
6) Failure to check e-mail or Google Classroom may result in you missing important assignments and subsequently affect your grade.

CELL PHONES

All cell phones and beepers are expected to be switched to vibrating mode if available and turned off completely if this feature is not an option. Disruption of class due to beepers or a cell phone will not be tolerated and the student will be asked to leave class. All other electronic equipment that the faculty member deems not essential to the provision of academic learning is prohibited from being used in class.

REVISIONTO THE SYLLABUS

This syllabus is subject to change. It is the duty of the instructor to inform students of changes in a timely fashion after approval of Quality Assurance Office (QAO).

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Course calendar: Please check the academic calendar for Spring 2016

Week	Project Stages	Beg/End Dates	Topics	Assessment	Outcomes
1	Conceptual Planning	Feb 28th – Mac 3rd, 2016	- Introduction to the construction engineering - Contract and delivery Methods	N/A	Outcome #1
2	Conceptual Planning	Mac 6th – 10th , 2016	- Contract and Delivery Methods (contd') - Conceptual Estimating	N/A	Outcome #1
3	Conceptual Planning	Mac 13th – 17th , 2016	- Designer's Bid and award - Square foot Estimating	Quiz#1 Assignment #1	Outcome #3
4	Design and Construction	Mac 27th – 31st , 2016	- Assemblies Estimating - Equipment and Productivity	N/A	Outcome #2 and Outcome #3
5	Design and Construction	April 3rd – April 7th , 2016	- Construction Methods Detailed Estimating; - Earth Work	Quiz#2	Outcome #2 And Outcome #4
6	Procurement	April 10th – 14th , 2016	Detailed Estimating; - Concrete Work	Site Tour (Date and Place to be Confirmed) Assignment#2	Outcome #4
7	Procurement	April 17th – 21st , 2016	Detailed Estimating; - Brick Walls, Block Walls	Preparing Report about the Site Tour Quiz#3	Outcome #4
April 22nd – 28th , 2016			Midterm Exam		
8	Procurement	May 2nd – May 5th , 2016	Detailed Estimating; - Form Work and Rebar	N/A	Outcome #4
9	Procurement	May 8th – 12th , 2016	Detailed Estimating Cont'd ; - Form Work and Rebar	Quiz#4	Outcome #4
10	Procurement	May 15th – 19th ,2016	Construction project Planning and Scheduling; - BarChart (Gantt Chart) Construction project Planning and Scheduling; - PERT	Assignmnet#3	Outcome #3
11	Procurement	May 22nd – 26th ,2016	Construction project Planning and Scheduling; - CPM Construction project Planning and Scheduling; - Earned Value	Test	Outcome #3
12	Construction	May 22th – June 2nd -2016	Primavera 6; - Introduction Primavera 6; - CPM	Assignment #4	Outcome #3
13	Construction	June 5th – 9th ,2016	Engineering Economics; - Project time-cost trade off	Submit the Report	Outcome #2 And

			Engineering Economics; - Project finance and contracting pricing	Quiz#5	Outcome #4
14	Construction	June 12th – 16th , 2016	Sustainability - Sustainable Construction (Green Construction)	N/A	Outcome #2
15		June 19th – 23rd, 2016	Review Week		
June 24th – 30th ,2016 Final Exam					