KOMAR UNIVERSITY OF SCIENCE AND TECHNOLOGY
(KUST)

Transportation Engineering Course Syllabus			
Course Title	**Transportation Engineering**		
Course Code	**CVE4355**	**No. of Credits**	**3CH**
Department	**Civil Engineering**	**College**	**Engineering**
Pre-requisites Course Code	**Soil Mechanics CVE3320C**	**Co-requisites Course Code**	
Course Coordinator(s)	**Mr. Hemn Unis Ahmed**		
Email	hemn.unis@komar.edu.iq	**IP No.**	**116**
Other Course Teacher(s)/Tutor(s)	None		
Class Hours	Section 1: Thursday (08:00 to 09:30) & Saturday (10:00 to 11:30)		
Office Hours	Thursday (9:30 to 11:30), You are also welcome to stop by anytime you wish, with or without an appointment, and You can also contact me by e-mail or telephone.		
Course Type	**Departmental Requirement**		
Offer in Academic Year	**Fall 2015**		

COURSE DESCRIPTION

This course covers the fundamental concepts of transportation engineering through an in-depth study of highway engineering systems, topics covered include an introduction to the significance of highway transportation to the social and economic underpinning of society, so that students can understand and be able to solve transportation related problems and design for highway mode of transportation with focus on highway users' characteristics, geometric design of highways and pavement design, This course will present a large number of practical problems, and in sufficient depth, such that the student will be capable of solving real highway related problems.

COURSE OBJECTIVES

Students will:

1. To give an overview of the engineering of multi-modal transportation systems.
2. To introduce the fundamental concepts of transportation engineering through an in-depth study of Highway Engineering systems.
3. To illustrate geometric design of highways and pavement design

COURSE LEARNING OUTCOMES

After participating in the course, the students should be able to:

1. Understand the various models of Transportation Engineering.
2. Identify the various types of road, planning of constructing new roads and knowing road patterns.
3. Apply the principles of underlying highway design.
4. Design a highway allowing for differing terrains, horizontal and vertical curves.
5. Interpret geometric design fundamentals, in relation to safety and driver comfort, focusing on horizontal and vertical alignment.
6. Design alternative pavement designs and understand their deterioration.

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

Course topics include:

- Introduction to Transportation Engineering
- Various models in Transportation engineering
- Road Alignment and survey
- Highway Planning
- Highway Economic
- Characteristics of the driver, Pedestrian, Vehicle and Roads.
- Highway Geometric
- Horizontal Curves
- Vertical Alignment
- Braking & Side Distance
- Pavement Design
- Highway drainage
- Intersections
- Traffic Marking
- Parking

****Note: Adding more chapters is governed by the time.***

COURSE TEACHING AND LEARNING ACTIVITIES

Lectures: during a week, the theoretical lectures will be presented throughout the semester

Quizzes: the contents of each lecture will be discussed during class for open question and answer to make sure every student will participate and be active.

In class brainstorming sessions: provide students with enough sources and background knowledge briefly within the topics during class to top up their challenge packs to be more active.

COURSE ASSESSMENT TOOLS

Assessment Tool	Description	Weight
Quizzes 4	Quizzes are scheduled as shown in the semester schedule.	**10%**
Midterm Exam	The Midterm will be conducted after week 7 of the semester. It will cover the first half of the course contents.	**25 %**
Test	The Test will be conducted after week 12 of the semester; it will cover part of the second half of the course contents.	**20%**
Design Project	The design project will require the students to work in groups and solve a transportation problem or design elements of Highway project. The details of the project will be given during the semester.	**10%**
Contribution	This includes student's participation in class brainstorming sessions, recalling previous topics and participation for the next classes.	**5%**
Final Exam	The final exam will be designed to cover all the students' learning outcomes for this course.	**30%**

Textbooks:

Roads, Railways, Bridges, Tunnels and Harbour Dock Engineering, by B.L.GUPTA (5th Edition), 2003.

References:

1. Traffic & Highway Engineering, by Nichola J. Garber & Lester A. Hoel, (2nd Edition), 1999.
2. Surface Transportation (Railways & Highways), by R. Agor, (1st Edition), 2013.
3. Traffic Engineering & Transport Planning, by L.R.Kadiyali, (8th edition), 2013.
4. Fundamentals of transportation Engineering, by Jon D. Fricker & Robert K. Whitford.

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

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

Attendance Policy:
Students are expected to attend each class for the entire semester. Students are responsible for material present in lectures. Only students with official KUST absence, family crises, and illness are excused from class. Three occasions of lateness count as one absence. The student who misses 10 percent of the classes will be placed on probation.

Make up Policy:
Since all examination are announced in advance, zero grade will be given to any missed examination unless a student's has an acceptable reason, such as illness, for not being able to take the examination during all those days when the examination was announced.

Academic Dishonesty:
Any type of dishonesty (Plagiarism, Copying another's test or home-work, etc) will Not be tolerated. Students found guilty of any type of academic dishonesty are subject to failure in this course, plus further punishment by the University Council.

GUIDELINES FOR SUCCESS

1. Be able to work independently and in groups.
2. Pay-attention in the classes and to the instructions given by the instructor is the key for success.
3. Extend your knowledge beyond the given textbooks in order to master the subject, and
4. Try not to miss the classes.

Week	Beg/End Dates	Topics (Chapters)	Course Assignments per chapter
1	01-10 to 03-10 / 2015	Introduction to Transportation Engineering &	NA
2	8-10 to 10-10 / 2015	Road Alignment& Various steps in new highway project	NA
3	15/10 to 17/10 / 2015	Highway Planning & road pattern	NA
4	22-10 to 24-10 / 2015	Highway Economics & Methods of Economic Studies	Quiz # 1
5	29-10 to 31-10 / 2015	Characteristics of the Driver, Pedestrian, Vehicle & Roads	NA
6	5-11 to 7-11 / 2015	Highway geometric	NA
7	12-11 to 14-11 / 2015	Braking distance	Quiz # 2
	18-4 to 23-4 / 2015	Midterm Exam	
8	26-11 to 28-11 / 2015	Side Distance	NA
9	3-12 to 5-12 / 2015	Horizontal Curves	NA
10	10-12 to 12-12 / 2015	Vertical Alignment	Quiz # 3
11	17-12 to 19-12 / 2015	Highway Drainage	NA
12	24-12-2015 to 2-1-2016	Intersections and Parking & Traffic Marking	NA
		Test	
13	7-1 to 9-1 / 2016	Pavement design	NA
14	14-1 to 16-1 / 2016	Pavement design	Quiz # 4
15	21-1 to 23-1 / 2016	Review Week for Academic Courses	
16	28-1 to 30-1 / 2016	Final Examination for Academic Courses	