Ministry Of Higher Education and Scientific Research

AL-Mustansiriayah University/Faculty of Engineering /Department of Highway and Transportation

(نموذج الخطة الدراسية للمساق)
Course Plan

Course No.: 506060404
Course Name: Highway Geometric Design
Course Website: ---
Time Division: 2hr Theoretical 1hr. Tutorial
Semester & Year: First , 2018 / 2019

Course Description [وصف المساق]
(4 credit hours)

This course introduces students to the basic principles and criteria utilized by engineers and designers in design and analysis the different facilities of roads network at different conditions. It covers the elements of design represented by human physiological and psychological behavior, vehicle properties, and traffic characteristics. Then how to use these elements to design the facilities according to the required criteria and with acceptable level of service.

Course Intended Outcomes: [المخرجات المتوقعة من المساق]

At the end of the course, students are expected to learn:

- The elements of roads geometric design,
- Using the design elements with required criteria to design the highway features,
- Propose a suitable geometric solution for the roads network troubles.

Course Outline

Week	
Oct. 1st W	Introduction to Highway Geometric Design
Oct. 2nd W	Mobility and Accessibility, Highway functional classification
Oct. 3d W	Design control and criteria I (Vehicle, Driver)
Oct. 4th W	Design control and criteria II (Traffic, HW Capacity, pedestrian, bicycle, Safety, Environment, and Economic analysis)
Nov. 1st W	Elements of design: Sight distance (Stopping, decision, passing)
Nov. 2nd W	Elements of design: Horizontal alignment (tangent, transition, circular curve) I
Nov. 3dW	Elements of design: Horizontal alignment (Super elevation, widening) II
Nov. 4thW	Mid Exam
Dec. 1st W	Elements of design: Vertical alignment (Grades, Vertical curves)
Dec. 2ndW	Elements of design (Combinations of Horizontal and Vertical alignments)
Dec. 3dW	Other elements affected design (drainage, lighting, Utility, Traffic control device, noise barriers, Fencing)
Dec. 4thW	Cross section elements (Pavement, Lane widths, Shoulder…)
Jan. 1st W	Final exam
Jan. 2nd W	Review

Textbooks: [الكتاب المنهجي]
Wolhuter, Keith M. (2015), Geometric Design of Roads Handbook

Suggested references: [المراجع المساعدة للمنهج]
AASHTO (2011), A Policy on Geometric Design of Highways and Streets

Marking [توزيع الدرجات]

First Exam	15 marks	Second Exam	15 marks		
QUIZE	5 marks	QUIZE	5 marks	Final Exam	60 marks

Regulations [الظوابط والأنظمة]

1. There will be three term exams given during this semester. The best two out of three will be considered for the First & Second exam. This means there will NO makeup exams. Missing one of the two left exams means a ZERO grade will be given for that exam.
2. There is no markup for quizzes.
3. Attendance is mandatory and University regulations will be enforced.
4. All Cheating incidents will be reported to the chair. The following activities are considered cheating:
    a. Turning in assignment that includes pats of someone else work.
    b. Turning in someone else assignment as your own.
    c. Giving assignment to someone else to turn in as their own.
    d. Copying answers in a test or quiz.
    e. Taking a test or quiz for someone else.
    f. Having someone else take a test or quiz for you.
5. See student handbook for other regulations.

Assignments and/or Projects [الواجبات والمشاريع]

Assignment/Project	Description	Due Date	Marking
Quizzes	Two or more quizzes	During the course	5Marks

Instructor(s) information [معلومات الأستاذ]

Section: 1 **Lecture Room:** 1 **Time:**

Instructor's Name: Dr. Mohammed Zuhair Mohamedmeki **email:** moh7312@gmail.com **Office No.:**
Lecturer Alaa Saadi **email:** alaa202.eng2004@yahoo.com

Office Hours: Other office hours are available by appointment.

Important: The content of this syllabus may not be changed during the current semester.

Lecturer Signature **Chair Signature**