Republic of Iraq

Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Apparatus

College: Shatt Al-Arab University College
Department: Civil Engineering
Stage: 3rd stage
Lecturer name: Dr. Wisam Abdulla Najim
Academic title: Lecturer

Course Weekly Outline

Name	Dr. Wisam Abdulla Najim AlHalfi			
E-mail address	Engwisam7@gmail.com			
Course name	Traffic Engineering (CE317)			
Course objective	The course aims to study the means and establish systems that achieve organization, safety and efficiency and determine them during human or goods transportation operations in all means of transportation by road, rail, air and sea navigation, by using various engineering techniques with the latest means of communication and technology, including traffic signs, traffic signals, traffic symbols and signs, all with the aim of organizing and facilitating traffic, and preserving lives, time and money.			
Course description	A. **Cognitive and educational objectives** 1. Methods of calculating traffic volumes. 2. Methods of calculating vehicle speed. 3. Design of road elements. 4. Analysis of traffic accidents B. **Course specific skill objectives** 1. Apply quantitative and numerical methods for the purpose of solving engineering problems. 2. Use basic knowledge to research new technologies. 3. Derive and evaluate information necessary to apply engineering analysis methods to unfamiliar problems.			
References	1. مبادئ هندسة المرور، د. لمياء عبدالجليل. Traffic Engineering Third Edition by Roger P. Roess, Elena S. Prassas and William R. McShane.			
External sources	1. Highway and Traffic Engineering in Developing Countries by Bent Thagesen. 2. Traffic and Highway Engineering by Nicholas J. Garber and Lester A. Hoel.			
Course assessment	**Lab.**	**Quizzes and assessment**	**Mid-term exam**	**Final exam**
	10	**10**	**25**	**55**
General notes				

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Week No.	Theoretical	Experimental	Aims
1	Introduction of Traffic engineering	Traffic Volume at Highways	The course aims to study the means and establish systems that achieve organization, safety and efficiency and determine them during human or goods transportation operations in all means of transportation by road, rail, air and sea navigation, by using various engineering techniques with the latest means of communication and technology, including traffic signs, traffic signals, traffic symbols and signs, all with the aim of organizing and facilitating traffic, and preserving lives, time and money.
2	The methods of volume counting	Traffic Volume at Intersection	
3	The methods of speed counting	Passenger Car Unit	
4	The method of capacity design of the roadway	Spot Speed	
5	Introduction to intersections types	Spot Speed and Radar Gun Speed Meter	
6	Introduction to intersection traffic control (Traffic control methods)	Space Mean Speed	
7	Introduction to intersection traffic control (Sign and marking)	Headway and Gap	
8	The method of determining delay in traffic signalized	Traffic Delay at Intersection	
9	The method of traffic signalized design	Traffic Delay on Road	
10	Determine the Sight distance (Stopping Sight distance)	Calculate of Density	
11	Determine the Sight distance (Passing Sight distance)	Calculate of Capacity	
12	Curves design (Horizontal curve design)	Saturation Flow Rate and Capacity	
13	Curves design (Vertical curve design)	Relationship between Speed, Density and Capacity	
14	The method of parking design	Horizontal curve	
15	Analysis of accident	Vertical curve	