FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Transport Planning and traffic Engineering

Information :

Course Code :	SCM 527	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Associate Professor	Mohamed Elsaid Abdel Motaleb Abdel Razek	3
Teaching Assistant	Mahmoud Mohamed Khalaf Ahmed	5

Area Of Study :

This course aims to:
Provide an overview on the principals of transport planning and traffic engineering.
Introduce different aspects of transport planning and traffic engineering.
Introduce traffic management and public transport improvements.
Describe different stages of traditional transport planning.

Description :

Transport planning: introduction to transport sciences, Definitions, Time horizons of transport planning, Elements of urban transport planning procedures, Data base, Introduction to travel demand forecasting models, Introduction to traffic management and public transport improvements, Introduction to evaluation of strategic transport plans and traffic management schemes, Traffic engineering: vehicle, user and road characteristics, Studies of traffic stream characteristic (speed, volume, trip time & delay), Fundamentals of traffic flow: speed, volume and density relationships,, Highway capacities, Traffic control devices.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	a1- Outline the transport planning process.
2 -	a2- Identify different stages of transportation demand forecasting
3 -	a3- Define the fundamentals of traffic flow characteristics
4 -	a4- Define different components of traffic system.
b.Intellectual Skills: :	
1 -	b1- Apply different mathematical transport models
2 -	b2- Evaluate different transportation project alternatives
3 -	b3- Evaluate different roadway sections
4 -	b4- Analyze traffic operation at intersections & on links

d.General and Transferable Skills: :	
1 -	d1- Prepare a technical report related to course topics.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction To Traffic Engineering	5	3	2
Components of traffic system (road user, driver, pedestrian - moving units; vehicle & bicycles)	10	6	4
Traffic flow characteristics (traffic volume, traffic speed, traffic density, headway, spacing, traffic flow relationship)	15	9	6
Introduction To Transportation Planning process (Problem definition, data collection)	5	3	2
Transportation demand prediction 1st stage : Trip generation	10	6	4
Transportation demand prediction 2nd stage : Trip distribution	10	6	4
Transportation demand prediction 3rd stage : modal split	10	6	4
Transportation demand prediction 4th stage : traffic assignment	10	6	4

Teaching And Learning Methodologies :

Lecture
Research
Class Work

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignment	5.00		
Final exam	40.00		
First mid-term exam	15.00		
In Class Quizzes	10.00		
Performance & Participation	10.00		
Report	5.00		
Second mid-term exam	15.00		

Course Notes :

Handout by the lecturer

Recommended books :

Highway Capacity Manual. TRB, National Research Council, Washington, D.C., 2000 Or 2010.

A Policy on Geometric Design of Highways and Streets, 4th Edition, American Association of State Highways and Traffic Officials, Washington, D.C., 2001 (AASHTO Green Book).

Institute of Transportation Engineers, Manual of Traffic Engineering Studies, 1990.

Institute of Transportation Engineers, Traffic Engineers Handbook, 2002.