

<b>Department of Civil Engineering</b>				
<b>Traffic Systems Management (61561)</b>				
<b>Total Credits</b>		<b>3</b>		
<b>major elective</b>				
<b>Prerequisites</b>		P1 : Transportation Systems Eng'g II (61460) OR Transportation Systems Engineering II (61463)		
<b>Course Contents</b>				
Management of the various types of traffic systems including CBD streets and junctions, arterials and freeways. Management of residential area streets. Public transportation management. Restraint measures and parking management. Measures to improve safety and environmental quality. Traffic administration. Application of traffic systems management concepts in the urban areas in the Palestinian territories				
<b>Intended Learning Outcomes (ILO's)</b>			<b>Student Outcomes (SO's)</b>	<b>Contribution</b>
1	an ability to apply knowledge of mathematics, science, and engineering in the management of the various types of traffic systems		A	10 %
2	an ability to collect, analyze and interpret traffic data and related roadway factors and issues of concern, and use the techniques, skills, and modern engineering tools, in the management of traffic systems		B G K	20 %
3	an ability to prepare design or design modifications related to roadways and traffic systems and their components (e.g., surface streets, intersections, public transportation, parking), considering the impact of the resulting engineering solutions in an economic, environmental, and societal context, to meet desired needs within realistic constraints		C F H	50 %
4	an ability to identify, formulate, and solve traffic systems management concepts and problems related to improving flow on streets and intersections, and understand contemporary issues in traffic systems management		E I J	20 %
<b>Textbook and/ or References</b>				
1. Traffic Systems Management: Concepts and Applications on Palestinian Cities. By: S. Abu-Eisheh and K. Al-Sahili, PECDAR, 2001. 2. Urban Transit Operations, Planning and Economics. By: V. Vuchic, John Wiley & Sons, 2005. 3. Traffic Engineering. 3rd ed. By: W. McShane, E. Prassas, and R. Roess, Prentice Hall, 2004. 4. Highway Capacity Manual. Transportation Research Board, 2004. 5. Highway Design and Traffic Engineering Safety Handbook. By: R. Lamm, B. Psarianos, and J. Mailaender, 1999. 6. Traffic Congestion and Traffic Engineering Safety in the 21st Century. Ed. R. Benekohal, American Society of Civil Engineers, 1997. 7. A Toolbox for Alleviating Traffic Congestion and Enhancing Mobility, By: Institute of Transportation Engineers, 1997. 8. Manual of Transportation Engineering Studies. By: Institute of Transportation Engineers, 1994. 9. State of the Art Report: Residential Traffic Management. By: D. Smith and D. Appleyard, Institute of Transportation Engineers, 1980. 10. Transportation and Traffic Engineering Handbook, By: Institute of Transportation Engineers, 1982. In addition, a number of journal papers and study reports will be assigned for further readings. The Students are also encouraged to access various transportation web sites for articles and relevant materials, including ite.org, trb.org, and the dot sites.				
<b>Assessment Criteria</b>			<b>Percent (%)</b>	

First Exam	20 %
Second Exam	20 %
Projects	10 %
Final Exam	50 %

**Course Plan**

<b>Week</b>	<b>Topic</b>
1	Introduction to TSM
2	Traffic Studies and Review of Existing Conditions
3-5	Traffic Management: Use of Streets
5-7	Traffic management: Junctions Control
8-10	Public Transportation Characteristics and Management
11-13	Residential Area Management and Traffic Calming
14	Measures to Improve Safety and Environmental Quality
15	Traffic Administration