



**The Hashemite University  
Faculty of Engineering  
Civil Engineering Program  
Course Syllabus**



<b>Course Title:</b>	<b>Traffic Engineering 3 (3,0,0)</b>	<b>Course Number:</b>	110401468
<b>Designation:</b>	Compulsory	<b>Prerequisite(s):</b>	110401367
<b>Instructor:</b>	Dr. Randa Oqab Mujalli	<b>Instructor's e-mail:-</b>	randao@hu.edu.jo
<b>Office Hour</b>	To be announced/ There are no office hours during summer semesters		

**Course Description (catalog):** Traffic Flow Theory; Traffic Studies (volume, speed, travel time, and parking); Traffic control devices; Introduction to traffic signal timing, Parking facilities; Traffic safety studies.

**Textbook(s) and/or Other Supplementary Materials:**

- Fred L. Mannering, Scott S. Washburn, Walter P. Kilareski, **Principles of Highway Engineering and Traffic Analysis**, Fourth Edition, John Wiley and Sons Inc., 2009.
- Highway Capacity Manual (HCM), Special Report 209, TRB, 2000.
- W. R. McShane, R. P. Roess, E. S. Prassas, **Traffic Engineering**, Third Edition, Pearson Prentice Hall, 2004.
- **Traffic & Highway Engineering** by Nicholas Garber and Lester Hoel, Fourth Edition, Brooks/Cole.

**Major Topics Covered:**

Topics	No. of Weeks	Contact hours*
8. Introduction to traffic engineering	1/3	1
9. Review of driver-vehicle-roadway characteristics	1	3
10. Traffic flow theory and models	2 1/3	7
11. Traffic Engineering Studies	2	6
12. Intersections, design, and control	4	12
13. Two way two lanes LOS	1 1/3	4
14. Multi-lane highways LOS	1 1/3	4
15. Freeways (basic segments) LOS	1 1/3	4
16. Traffic Safety	1 1/3	4
<b>Total</b>	<b>14</b>	<b>45</b>

**Specific Outcomes of Instruction (Course Learning Outcomes, CLO):**

After completing the course, the student will be able to:

CLO1: Analyze the operational characteristics of un-signalized intersections, analyze and plan the timing of traffic signals, analyze level of service of Two-way highways, Multi-Lanes highways, and Basic freeway segment. (c)

CLO2: An ability to identify, formulate, and solve engineering problems dealing with volume, speed, delay studies and traffic safety of existing roadways (e)

**Student Outcomes (SO) Addressed by the Course:**

#	Outcome Description	Contribution
<b>General Engineering Student Outcomes</b>		
(a)	an ability to apply knowledge of mathematics, science, and engineering	
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	(M) 45%
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	(M) 45%
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	(L) 10%
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	

H=High, M= Medium, L=Low

<b>Grading Plan:</b>	1st Exam	25 Points
	2nd Exam	25 Points



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Home works and quizzes	10 Points
Final exam	40 Points

**General Notes:**

- The maximum allowed number of absentees from the course is **six** classes.
- Exceeding these limits will lead to prevention from attending the final exam.
- **No MAKE-UP EXAMS**

**Prepared by:**

*Dr. Randa Oqab Mujalli*

**Date:** 31<sup>st</sup> October, 2017