The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	**Traffic ıgineering 3 (3,0,**	**Course Number:**	110401468
Designation:	Compulsory	**Prerequisite(s):**	110401367
Instructor:	Dr. Randa Oqab Mujalli	**Instructor's e-mail::-**	randao@hu.edu.jo
Office Hour			

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.

Other Supplementary Materials:
- 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*
1. Introduction to traffic engineering	1/3	1
2. Review of driver-vehicle-roadway characteristics	1	3
3. Traffic flow theory and models	2 1/3	7
4. Traffic Engineering Studies	2	6
5. Intersections, design, and control	4	12
6. Two way two lanes LOS	1 1/3	4
7. Multi-lane highways LOS	1 1/3	4
8. Freeways (basic segments) LOS	1 1/3	4
9. Traffic Safety	1 1/3	4
Total	**15**	**45**

*Contact hours include lectures, quizzes and exams

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. (1)
CLO2: An ability to identify, formulate, and solve engineering problems dealing with volume, speed, delay studies and traffic safety of existing roadways (1)

CLO3: knowledge of contemporary issues such as traffic studies observation equipment and safety studies analysis techniques (7)

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	M
2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	
3	an ability to communicate effectively with a range of audiences	
4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions	
7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	M
	H=High, **M**= Medium, **L**=Low	

Grading Plan:

First exam	25	Points
Midterm exam	25	Points
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:** February 26, 2023