



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



<b>Course Title:</b>	<b>Traffic Accidents &amp; Analysis 3 (3,0,0)</b>	<b>Course Number:</b>	110401564
<b>Designation:</b>	Elective	<b>Prerequisite(s):</b>	110401468
<b>Instructor:</b>		<b>Instructor's e-mail:-</b>	
<b>Office Hour</b>	To be announced		

**Course Description (catalog):** Accidents and road safety, the problem, Traffic safety studies, capacity analysis of basic freeway segments, multilane, and two-lane highways, vehicle, roadway and driver characteristics, Computer applications, Traffic control methods and devices; Operational considerations for safety, Roadway lighting and highway traffic noise.

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

- Road Safety Fundamentals, Federal Highway Administration, 2017. Available online: [https://rspcb.safety.fhwa.dot.gov/RSF/docs/Road\\_Safety\\_Fundamentals.pdf](https://rspcb.safety.fhwa.dot.gov/RSF/docs/Road_Safety_Fundamentals.pdf)
- Highway Safety Improvement Program Manual, Federal Highway Administration, 2010. Available online: <http://safety.fhwa.dot.gov/hsip/resources/fhwasa09029/>
- Highway Safety Manual, American Association of State Highway and Transportation Officials, 2010.
- W. R. McShane, R. P. Roess, E. S. Prassas, Traffic Engineering, Third Edition, Pearson Prentice Hall, 2004.

**Major Topics Covered:**

Topics	No. of Weeks	Contact hours*
17. Introduction to traffic safety	1/3	1
18. Review of driver-vehicle-roadway characteristics and human factor	1/3	1
19. Data collection fundamentals	1	3
20. Statistical analysis of crash data	4	12
21. Network analysis and screening	2	6
22. Selecting countermeasures	3	9
23. Economic appraisal	1 1/3	4
24. Project prioritization	1	3
25. Safety effectiveness evaluation	1	3
<b>Total</b>	<b>14</b>	<b>42</b>

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

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

CLO1: Analysis of highway design alternatives and control strategies with respect to accident probabilities, and using appropriate statistical models for analysis. (g, h)

CLO2: An ability to identify, formulate, and select accident countermeasure and to evaluate used methodology (i, e, f)

**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	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	(M)30%
(f)	an understanding of professional and ethical responsibility	(L) 10%
(g)	an ability to communicate effectively	(L) 10%
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	(M) 30%
(i)	a recognition of the need for, and an ability to engage in life-long learning	(L) 20%
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	
<b>H=High, M= Medium, L=Low</b>		

**Grading Plan:** 1st Exam

25 Points



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2nd Exam	25 Points
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:** 3<sup>rd</sup> March, 2018