



The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus



Course Title:	Pavement Management Systems	Course Number:	110401563
Department:	Civil Engineering	Designation:	Major Elective
Prerequisite(s):	Pavement Materials & Design (110401466)		
Instructor:	Dr. TALEB M. AL-ROUSAN	Instructor's Office:	Eng. 3015
Instructor's e-mail:	taleb@hu.edu.jo		
Office Hours:	[S, T, W. (12:00 – 13:00)]		
Time: Sec. 1	M, W 9:30 – 11:00 am	Class Room:	E 2024
Course description:	Pavement maintenance management concepts and components, Evaluation methods of highway elements (Pavements, Shoulders, Bridges, and Drainage structures); Flexible and rigid pavement distresses, Pavement condition survey and rating procedures; Highway maintenance and repair procedures; Assessment of maintenance needs; Evaluation and selection of proper maintenance alternatives, Computer applications.		
Textbook(s):	<ol style="list-style-type: none"> 1. Pavement Maintenance Management for Roads and Parking Lots, Construction Engineering Research Laboratory: Corps of Engineers, 1990. 2. Asphalt in Pavement Maintenance; The Asphalt Institute Manual series No. 16 (MS-16). 		
Other required material:	Any pavement management and design book can be helpful.		
Program Learning Outcomes (PLOs)	successful completion of this program graduates will be able to:		
	#	Outcome Description	Contribution
	General Engineering Student Outcomes		
	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	L
	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	L
	d	an ability to function on multidisciplinary teams	
	e	an ability to identify, formulate, and solve engineering problems	M
	f	an understanding of professional and ethical responsibility	L
	g	an ability to communicate effectively	L
	h	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	L
	i	a recognition of the need for, and an ability to engage in life-long learning	
	j	a knowledge of contemporary issues	L
	k	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	
H=High, M= Medium, L=Low			
Course Learning Outcomes (CLOs):	Upon completion of this course, the student will be able to: <ol style="list-style-type: none"> 1- Differentiate between different pavement distresses (b) 2- Asses pavement condition based on learnt pavement condition indices (c, e) 3- Propose appropriate maintenance and rehabilitation (M&R) procedures(c, j) 4- Specify the safety needs during maintenance.(h, f) 5- Assis student ability to work in teams and present their findings (e, g) 		



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Topics covered:	Topics		No. of Weeks	Contact hours*
	Pavement Management System (Definition, Project level, Network level);		2	6
	Pavement Evaluation (Benefits of pavement evaluation, and Pavement condition elements (Surfaces distresses, structural capacity, roughness, and safety));		2	6
	Distresses in flexible & rigid pavements);		3	9
	data collection methodology, pavement condition index (PCI);		2	6
	Maintenance, Rehabilitation and Repair Alternatives for Asphalt Concrete and PCC Pavement		1	3
	Maintenance of Drainage Facilities		1	3
	Safety During Maintenance & Rehabilitation		1	3
	Other Pavement Condition Indices (Pavement serviceability index, Pavement condition rating, Itemized pavement condition)		1	3
	Economic Aspect in Highway Maintenance		1	3
	Bridge Distresses		1	3
	Total		15	45
*Contact hours include lectures, quizzes and exams				
Class/laboratory schedule:	2 class sessions each week; 75 minutes			
Grading Plan:	Midterm Exam	(30 Points)	27/11/2017 (9:30 – 10:30 am)	
	Presentations	(30 Points)	Two presentations during the semester	
	Final Exam	(40 Points)	Will be announced by the registrar	
	The grading system that will be used for this class will be as follows		A+(90-100), A (86 -89), A- (82-85), B+ (78-81), B(74-77), B-(70-73), C+ (66-69), C (62-65), C-(58-61), D+ (54-57), D(50-53).	
General Notes:	<ul style="list-style-type: none"> • The maximum allowed number of absentees from the course is five classes. Exceeding these limits will lead to prevention from attending the final exam. • NO MAKE-UP EXAMS. • Beware of Plagiarism: copying and handing in for credit someone else's work. Any plagiarism case will result in an automatic 'F' for the course 			

Prepared by:

Dr. Taleb M. Al-Rousan

Date: 26th Sep. 2017