

Kurdistan Region Government Ministry of Higher Education and Scientific Research Erbil Polytechnic University



Module (Course Syllabus) Catalogue

College/ Institute	ENGINEERING COLLEGE			
Department	HIGHWAY & BRIDGE ENGINEERING			
Module Name	ADVANCED ASPHALT TECHNOLOGY			
Module Code	AAT101			
Degree	Technical Diploma Bachler			
	High Diploma	Master Ph		
		√		
Semester	FIRST			
Qualification				
Scientific Title				
ECTS (Credits)	7			
Module type	Prerequisite	Core√ Assist.		
Weekly hours	3 H.			
Weekly hours (Theory)	(3 H)hr	(3H)Total hrs		
	Class	Workload		
Weekly hours	()hr Class	()Total hrs		
(Practical)		Workload		
Number of Weeks	14			
Lecturer (Theory)	A.P.D. FARIS M. JASIM			
E-Mail & Mobile NO.	Faris.jasim@epu.edu.iq (07507587248)			
Lecturer (Practical)				
E-Mail & Mobile NO.				
Websites				

Course Book

Course Description	today struct mate	Since that time, asphalt technology has made giant strides so that today the equipment and techniques used to build asphalt pavement structures are highly sophisticated. Asphalt Concrete is a composite material commonly used in construction of roads, highways, airports, parking lots, and many other types of pavement.				
Course objectives	under the pa to as	The purpose of this intensive course is to provide a basic understanding of all phases of asphalt technology. Upon completion, the participant will be able to make knowledgeable decisions related to asphalt pavements and communicate effectively with asphalt specialists when the need arises.				
Student's obligation	b. To p c. Stud d. To v e. Pre f. Vet	a. To attend the classes regularly with minimum absence. b. To participate actively in the class discussion and Q&A session c. Study on daily basis to digest the class material d. To write note off-handouts e. Prepared for sudden Quizzes f. Vet through the references provided by the lecturer and to solve as much as possible of homework and exercises for the subjective materials.				
Required Learning Materials						
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Materiais		Task	Weig ht (Mark s)	Due Week	Relevant Learning Outcome	
Materials	I	Task Paper Review	ht (Mark			
Materials			ht (Mark s)			
		Paper Review	ht (Mark s)			
Evaluation		Paper Review Review Article Attendance Report	ht (Mark s) 10 5			
		Paper Review Review Article Attendance Report Seminar	ht (Mark s)			
	Assignments	Paper Review Review Article Attendance Report Seminar Essay	ht (Mark s) 10 5			
	Assignments	Paper Review Review Article Attendance Report Seminar Essay Project	ht (Mark s) 10 5			
	Assignments	Paper Review Review Article Attendance Report Seminar Essay Project	ht (Mark s) 10 5			
	Assignments Qui Lab	Paper Review Review Article Attendance Report Seminar Essay Project	ht (Mark s) 10 5 10			
	Assignments Qui Lab	Paper Review Review Article Attendance Report Seminar Essay Project iz	ht (Mark s) 10 5 10 20			
	Assignments Qui Lab	Paper Review Review Article Attendance Report Seminar Essay Project iz o. dterm Exam al Exam	ht (Mark s) 10 5 10			

Specific learning outcome:

By the end of the current course, the student shall be able to learn the major activities related to the asphalt mixtures design which is the part the makes the backbone for any constructional project. This course is aimed at providing the Highway Engineering students with basic understanding of the Highway

Engineering materials and the basic and fundamental design concept of highway pavements structures. Students will be able to design and analyse flexible pavements in addition, they will be able to understand the basic elements of pavement design. Students will be able to conduct a thorough analysis of stresses, strains and deflections developed by different axle configurations and loads in multi layer flexible pavement structures. Students will study the effect of both traffic and environment on pavement damage. The course provide sufficient coverage of highway materials using SUPERPAVE characterisation methods, hot mix asphalt design by using Marshall design methods. Students will learn how to design new structure by asphalt mix layers

Course References:

1-pavement design and materials by Papagiannakis ,and Masad -2008

2- Highway and traffic engineering ... by N.J. Garber and L.A. Hoel,,2009 4th edition.. University of Virginia,USA.

3- Highway engineering by Nikolaides, 2015

4-SORB 2007

5-Asphalt Institute Manual MS-2 7th edition

Course topics (Theory)	Week	Learning Outcome
INTRODUCTION	1	
Asphalt manufacturing & Anti-sripping Agents	2	
Chemical composition	3	
Modification	4-5	
Aggregates	6	
Filler types	7	
Marshall mix design	8	
Superpave mix design	9-10	
Asphalt models	11	
Asphalt pavement layers	12	
P G Zone	13	
Performance grade of asphalt	14	
Practical Topics	Week	Learning Outcome

Questions Example Design	
Extra notes:	
External Evaluator	
م. مفرق ملح وترد	
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