

Faculty of Engineering & Technology

Highway and airport Engineering

Information :

Course Code : SCM 524

Level : Undergraduate

Course Hours : 3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Associate Professor	Mohamed Elsaid Abdel Motaleb Abdel Razek	2
Teaching Assistant	Ahmed Taher Abdelhamed Mohamed Yousef	

Area Of Study :

Upon successful completion of this course, the student should be able to:

- Understand the basic concepts and main principles
- Calculate the values of the essential terms
- Apply Codes provisions

Regarding highway & airport planning classification of highways geometrical design of highway flexible pavement hard pavement pavement maintenance & repair

Description :

Introduction to highway and airport planning, Classification of highways, Design controls and criteria, Design of elements in the longitudinal direction, Design of cross sections, Design of At-Grade intersections, Grade separations and interchanges, Types of pavements, Calculation of stresses in flexible and rigid pavements, Types and characteristics of paving materials and mixtures, Equivalent axel loads, Design of flexible and rigid pavement thickness, Introduction to pavement maintenance and repair.

Course outcomes :

a.Knowledge and Understanding: :

1 -	Describe the main concept of highway & airport planning
2 -	List the main items of classification of highways

b.Intellectual Skills: :

1 -	Solve problems regarding geometrical design of highway
2 -	Design the elements of flexible pavement
3 -	Design the elements of hard pavement

c.Professional and Practical Skills: :

1 -	Draw neat details of geometrical design of highway
2 -	Apply Code provisions regarding flexible pavement
3 -	Apply Code provisions regarding hard pavement
4 -	Prepare technical reports for pavement maintenance & repair

d.General and Transferable Skills: :

1 -	Work under stress
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Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Highway & airport planning	8	6	2
Classification of highways	8	6	2
Geometrical design of highway	12	9	3
Flexible pavement	12	9	3
Hard pavement	12	9	3
Pavement maintenance & repair	4	3	1
Revision	4	3	1

Teaching And Learning Methodologies :

Interactive Lec.

Discussion

Problem Solving

Report / Present.

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
1st mid term	15.00		
2nd mid term	15.00		
final	40.00		
Quizzes / Assig.	15.00		
Report / Present.	15.00		

Course Notes :

Handout notes on MOODLE

Recommended books :

"The Handbook of Highway Engineering", T.F. Fwa, Taylor & Francis, 2006

Periodicals :

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Web Sites :

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