

**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
Lecturer	Emad Eldin Nabil Ali Bayoumi	15
Lecturer	Emad Eldin Nabil Ali Bayoumi	15
Assistant Lecturer	Mahmoud Abu Ouf Alashri Abdelrahman	3
Assistant Lecturer	Reham Milad Kamel Samaan	
Teaching Assistant	Mohamed Fathy Salem Mohamed	2
Teaching Assistant	Mohamed Fathy Salem Mohamed	2

**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
<b>d.General and Transferable Skills :</b>	
1 -	Work under stress

<b>Course Topic And Contents :</b>			
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

<b>Teaching And Learning Methodologies :</b>
Interactive Lec.
Discussion
Problem Solving
Report / Present.

<b>Course Assessment :</b>			
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		

<b>Course Notes :</b>
Handout notes on MOODLE

<b>Recommended books :</b>
"The Handbook of Highway Engineering", T.F. Fwa, Taylor & Francis, 2006

<b>Periodicals :</b>
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**Web Sites :**

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