



## Course Descriptor CVEN546 Design and Rehabilitation of Pavements

<b>ACADEMIC YEAR</b>	2015-16	<b>SEMESTER</b>	Fall
<b>Course Code</b>	CVEN546	<b>Course Title</b>	Design and Rehabilitation of Pavements
<b>Credit hours</b>	3	<b>Level of study</b>	Undergraduate
<b>College / Centre</b>	Engineering	<b>Department</b>	CVEN
<b>Co-requisites</b>		<b>Pre-requisites</b>	CVEN260

### 1. COURSE OUTLINE

[This course discusses analysis and design of flexible and rigid highway pavements, advanced technologies and materials for pavements, rehabilitation of pavements.

### 2. AIMS

[The course provides students with the fundamentals of pavements and application of these principles to analysis and design of flexible and rigid highway pavements, rehabilitation of pavements

### 3. LEARNING OUTCOMES, TEACHING, LEARNING and ASSESSMENT METHODS

Learning Outcomes (Definitive)	Teaching and Learning methods (Indicative)	Assessment (Indicative)
Upon successful completion of this course, students will be able to:		
1. Select material systems for pavement construction	Lectures	Assignments
2. Conduct design of flexible and rigid pavements for design criteria provided	Lectures	Assignments
3. Evaluate rehabilitation techniques	Lectures	Assignments
4.		

### 4. ASSESSMENT WEIGHTING

Assessment	Percentage of final mark (%)
1 <sup>st</sup> Examination	20
2 <sup>nd</sup> Examination	20
Assignments	40
Final Examination	20
<b>TOTAL</b>	<b>100%</b>

### 5. ACHIEVING A PASS

Students will achieve 3 credit hours for this course by passing **ALL** of the course assessments and achieving a **minimum overall score of 50%.**



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**5. ACHIEVING A PASS**

*NB \*Ensure that ALL learning outcomes are taken into account*

**6. COURSE CONTENT (Indicative)**

WEEK	LECTURE TOPIC	TIME (HOURS)
1	Introduction to pavements	1.5
	Material properties for pavement design	1.5
2	Material properties for pavement design	1.5
	Material properties for pavement design	1.5
3	Pavement geotechnics and soil improvement	1.5
	Pavement geotechnics and soil improvement	1.5
4	Pavement geotechnics and soil improvement	1.5
	Bituminous materials	1.5
5	Bituminous materials	1.5
	Bituminous materials	1.5
6	Flexible pavement design	1.5
	Flexible pavement design	1.5
7	Flexible pavement design	1.5
	Flexible pavement design	1.5
8	Flexible pavement design	1.5
	Flexible pavement design	1.5
9	Flexible pavement design	1.5
	Rigid pavement design	1.5
10	Rigid pavement design	1.5
	Rigid pavement design	1.5
11	Rigid pavement design	1.5
	Rigid pavement design	1.5
12	Mechanistic analysis and design of pavements	1.5
	Mechanistic analysis and design of pavements	1.5
13	Mechanistic analysis and design of pavements	1.5
	Mechanistic analysis and design of pavements	1.5
14	Maintenance and rehabilitation	1.5
	Maintenance and rehabilitation	1.5
15	Maintenance and rehabilitation	1.5
	Summary	1.5
	<b>TOTAL HOURS</b>	<b>45</b>
1 - 15	Plus <b>RECOMMENDED INDEPENDENT STUDY HOURS</b>	<b>90</b>
	<b>TOTAL COURSE HOURS</b>	<b>135</b>

**7. RECOMMENDED READING**

**Core text/s:**

Pavement Analysis and Design, Y.H. Huang, 2<sup>nd</sup> Ed, Prentice Hall, 2004

**Library + online resources:**