

**DEPARTMENT OF CIVIL ENGINEERING  
KANSAS STATE UNIVERSITY**

**CE 980:                   Top: Theory and Behavior of Modern Pavements**

**Instructor:               Mustaque Hossain, Ph.D., P.E.**  
Associate Professor

**Office Hours:**       Fiedler Hall, Room 2118  
TTH 11:00-12:30  
Other times "walk in if the door is open"  
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**Course Note:**        Class Materials & Hand outs

**Text Book:**           "Pavement Analysis and Design" by Y. Huang, First Edn., Prentice Hall.

**Course Objectives:**   The objective of this course is to educate graduate-level students in Civil Engineering about the theories behind the design of modern pavements and interpretation of mechanistic response of pavements due to traffic load and climatic variation.

**Distribution of Points:**

<u>Assignment</u>	<u>Points</u>
Homework & Assignments	300
Term project	100
Presentation 25	
Final	150
<b>Total</b>	<b>575</b>

**"Plagiarism and cheating are serious offenses and may be punished by failure on the exam, paper or project; failure in the course; and/or expulsion from the university. For more information refer to the 'Academic Dishonesty' policy in Inside KSU."**

**Class Schedule**

<u>Week</u>	<u>Class Period</u>	<u>Lecture Topic</u>
Jan. 22	1	History and Introduction to Pavement Behavior and Responses
Jan. 29	2	Material Characterization
February 5	3	Boussinesq Equation and other simplified theories
February 12	4	Method of Equivalent Thickness
February 19	5	Multi-layer systems
February 26	6	Multi-layer systems
March 5	7	Perpetual Pavements
March 12	8	Visco-elastic systems
March 26	9	Visco-elastic systems
April 2	10	Finite element analysis
April 9	11	Finite element analysis
April 16	12	PCC pavement behavior
April 23	13	PCC pavement theories
April 30	14	Deflection Data analysis
May 7	15	Class Presentation
Final	--	To be announced

## **Term Project**

The term project involves writing a report about a pavement analysis software and solving typical problems as approved by the instructor. The report must include detailed evaluation of the software and a user guide developed by you. The work must be started immediately.