Department of Civil Engineering

Course Name:

Advanced Pavement Design

Course Number: 20-558	**Credit:** 3
Program: Graduate	**Course Type:** Technical Required
Prerequisite: -	**Corequisite:** -

Course Description (Objectives):

The main goal of this course is to provide a thorough understanding and mastery of the principles and methods for designing asphalt and concrete pavements. Students will learn about the characteristics and design processes for each type of pavement, gaining the skills to analyze and develop optimal designs.

Course Content (outline):

- Chapter 1: Understanding the advancements made in pavement design over the past three decades
- Chapter 2: Analysis of rigid pavements
- Chapter 3: Introduction to the KENLAYER software
- Chapter 4: Introduction to the KENSLAB software
- Chapter 5: Traffic analysis in pavement design
- Chapter 6: Familiarity with the properties of materials used in pavements
- Chapter 7: Drainage and its importance in pavement design
- Chapter 8: Design of asphalt pavements
- Chapter 9: Design of concrete pavements
- Chapter 10: Introduction to mechanistic design methods

References:

- Pavement Analysis and Design, By: Y. Huang, 2004
- NCHRP 1-37A