Department of Civil Engineering

Course Name:

Intelligent Transportation System

Course Number: -	**Credit:** 3
Program: Graduate	**Course Type:** Technical Selective
Prerequisite: -	**Corequisite:** -

Course Description (Objectives):

The main objective of this course is to familiarize students with intelligent transportation systems and the role of data and modern technologies in them. Additionally, exploring the application of artificial intelligence to enhance the efficiency of these systems is one of its specific goals.

Course Content (outline):

- Chapter 1: Introduction to intelligent transportation
- Chapter 2: History of transportation system automation
- Chapter 3: Methods of data collection
- Chapter 4: Introduction to artificial intelligence concepts
- Chapter 5: Introduction to predictive models
- Chapter 6: Utilizing machine learning algorithms for transportation data analysis
- Chapter 7: Introduction to AI-based solution methods
- Chapter 8: Validation and ethics in data science
- Chapter 9: The role of data in intelligent transportation management

References:

- Daganzo, D.F., (1997), "Fundamentals of Transportation and Traffic Operations," Pergamon-Elsevier, Oxford, U.K.
- Garrison W.L., and J. Ward, (2000), "Tomorrow's Transportation: Changing Cities, Economies and Lives," Artech House.
- Chen, K., and J.C. Miles (2000), Editors, "ITS Handbook 2000," PIARC Committee on Intelligent Transport, Artech House, Boston.