



# INTRODUCTION TO MULTIMODAL URBAN TRANSPORTATION SYSTEMS (MUTS)

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**TYPE OF COURSE** : New | Elective | UG/PG  
**COURSE DURATION** : 12 weeks (20 Jul' 20 - 9 Oct' 20)  
**EXAM DATE** : 17 Oct 2020

**PRE-REQUISITES** : Interested Learners

**INTENDED AUDIENCE** : UG Civil Engineering, PG Civil Engineering (Transportation), UG Urban Planning, PG Urban Planning

**INDUSTRIES APPLICABLE TO** : Urban Local Bodies, Transport Network Companies (TNCs), Public transportation operating companies and administrators

## **COURSE OUTLINE :**

This course is refined version of the Post-Graduate course (ID6004) "Planning, Operation and Management of Transportation Facilities" which is being currently taught to the students of Infrastructure Design and Management at IIT Kharagpur. The course's primary objectives are to:

1. Identify the sustainability principles in transportation
2. Introduce the concept of Travel Demand Management (TDM)
3. Disseminate the techniques of urban public transit planning, operations and management
4. Imbibe the concepts of non-motorized urban transport
5. Demonstrate the applications in intelligent transportation systems (ITS)

## **ABOUT INSTRUCTOR :**

Dr. Arkopal K. Goswami, a Transportation Engineer by profession, is currently a faculty member in the Ranbir and Chitra Gupta School of Infrastructure Design and Management, IIT Kharagpur. He completed his Bachelors in Civil Engineering from the then Regional Institute of Technology (RIT), Jamshedpur in the year 2000. Subsequently, he received his Doctorate in Civil Engineering from the University of Virginia, USA in 2008.

## **COURSE PLAN :**

**Week 1:** Introduction to the Course, Introduction to Travel Demand Management, TDM Strategies

**Week 2:** TDM Strategies

**Week 3:** Case Studies on TDM strategies, Introduction to Public Transport System(PTS)

**Week 4:** Introduction to Public Transport System(PTS), Public Transport Operations

**Week 5:** Public Transport Operations, PTS Planning consideration

**Week 6:** PTS Planning consideration, PTS Case Studies

**Week 7:** Introduction to NMT systems, Assessment of NMTs

**Week 8:** Planning considerations for Pedestrians, Planning Considerations for Bicyclists

**Week 9:** Planning Considerations for Bicyclists, NMT Strategies

**Week 10:** NMT Strategies, Introduction to Intelligent Transportation Systems, Introduction to ITS, Telecommunications in ITS

**Week 11:** Components of ITS Architecture, ITS Architecture,

**Week 12:** ITS functional areas, ITS Operations, ITS Applications