



URBAN LANDUSE AND TRANSPORTATION PLANNING

PROF. DEBAPRATIM PANDIT

Department of Architecture and Regional Planning
IIT Kharagpur

INTENDED AUDIENCE : Bachelor in Architecture, Bachelor in Planning, Bachelor in Technology(Civil Engineering), Bachelor in Social Science, Master in (Civil Engineering ,City/Urban Planning, Urban Engineering, Transportation Planning, Spatial Data Science, Social science, Technology)

PRE-REQUISITES: Basic knowledge in Urban Planning.

INDUSTRIES APPLICABLE TO : All Architecture, Urban Planning, Infrastructure, IT/ITeS and Consultancy Services firms providing solutions for urban and transportation planning

COURSE OUTLINE :

This course provides the basic concepts and skill sets to undertake urban landuse and transportation planning and to analyze the impact of various policies either related to infrastructure development, environmental regulation and urban expansion. This will help future planners to plan for our smart cities in a more comprehensive way. The course focuses on all the key components of urban development including urban demographic transitions, real estate development, residential location choice, land price fluctuations and transportation planning. Additionally, the course focuses on transport infrastructure and freight planning. Apart from providing a comprehensive knowhow about the traditional theories and models of urban transport systems, it also introduces the advanced techniques that are coming up in recent times like activity based models, shared mobility etc.

ABOUT INSTRUCTOR :

Prof. Debapratim Pandit is currently an Associate Professor at the Department of Architecture and Regional Planning, Indian Institute of Technology Kharagpur. He has completed his PhD from the Department of Urban Engineering, University of Tokyo in the area of landuse transportation modeling and has more than twelve years of teaching and professional experience. He currently teaches Urban informatics, Advance Transportation Planning, Urban utilities and Services and Development Plans for Post Graduate and Research students. He has published several book chapters and papers in top international journals and has undertaken a wide array of consultancy and research projects on urban landuse planning, transport infrastructure development and urban mobility plans. He is currently in charge of the urban informatics lab and developing several key technologies including hardware, firmware and software for urban transit and sharing systems for the Government of India.

COURSE PLAN :

Week 1: Introduction and Overview of Land Use Transportation Planning

Week 2: Land Use Transportation Models and Frameworks

Week 3: Data Collection and Survey Techniques

Week 4: Microsimulation and Population Synthesis

Week 5: Urban Growth, Land suitability, Accessibility and Land price

Week 6: Residential Location Choice

Week 7: Trip Generation and Distribution

Week 8: Mode Choice

Week 9: Trip Assignment

Week 10: Transportation Demand Modeling using software (Part 1-5)

Week 11: Urban Freight

Week 12: Other Models