URBAN UTILITIES PLANNING: WATER SUPPLY, SANITATION AND DRAINAGE

PROF. DEBAPRATIM PANDIT

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INTENDED AUDIENCE : Bachelor in Architecture, Bachelor in Planning, Bachelor in Technology(Civil), Master in (City/Urban Planning, Urban Engineering, Physical Planning, Technology)

INDUSTRY SUPPORT : All Architecture, Urban Planning, Infrastructure and Consultancy Services firms providing solutions for urban areas

COURSE OUTLINE :

This course covers the fundamentals of urban utilities planning including water supply, sanitation and drainage infrastructure provision for urban areas. Additionally students are introduced to the different aspects of water sensitive urban planning. The course will enable students to understand the basic principles of ground water hydrology, water and sanitation infrastructure, water and waste water treatment technologies, sources of water and planning and management of these urban utilities. Students can further enhance their understanding through exploring the software for water supply and sewerage infrastructure design introduced during the course.

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: Urban utilities planning: Introduction
Week 2: Urban Water Supply
Week 3: Collection of water
Week 4: Pumping and storage
Week 5: Water supply Distribution system and Plans
Week 6: Water Quality, testing, treatment and cost
Week 7: Sanitation and Drainage Fundamentals
Week 8: Water carriage system
Week 9: Sewer design
Week 10: Sewer appurtenances and master plans
Week 11: Sewage treatment
Week 12: Drainage and recharge