MUNICIPAL SOLID WASTE MANAGEMENT

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INTENDED AUDIENCE : PG Level course for Environmental Engineering and UG level for Civil Engineering

INDUSTRY SUPPORT : Synergy waste management Pvt Ltd, UPL Environmental Engineers Pvt Ltd, Green power systems, A2Z group, Timarpu-Okhla waste management pvt ltd, Ramky Enviro Engineers Limited

COURSE OUTLINE :

The problems affiliated with solid waste management (SWM) in today's sprawling civilized and urbanized society are intricate because of the quantity and varied nature of wastes, the funding restriction for public disposal, interference of technology (energy and raw materials), and complex infrastructure development network in urban cities. As a result, if SWM is to achieve in consummate approach, the fundamentals aspects need to be identified. Thus, there is dire need to group the activities from the generation to the disposal point. The six different functional elements (generation, handing and separations, storage and processing at source, collection, the transformation of wastes, transfer and transport, and final disposal) for the engineering comparison and treatment need to be understood in detail. The understanding of the functional element is important because it helps in evaluating the impacts of projected changes and technological developments. Solid waste management is an essential part of every society, but it is also one of the most neglected one. An in-depth understanding of the subject is required to tackle the current solid waste management crisis effectively. This course attempts to familiarize various steps involved in solid waste management.

ABOUT INSTRUCTOR :

Prof. Ajay Kalamdhad is a Professor in the Department of Civil Engineering, Indian Institute of Technology Guwahati. He received his PhD from Indian Institute of Technology Roorkee in the year of 2008 and started working as a Lecturer in Visvesvaraya National Institute of Technology from September 2008. He joined Indian Institute of Technology Guwahati in June 2009 as an Assistant Professor. His research interests include Solid waste management, Mechanical composting and vermicomposting, Anaerobic digestion, Analysis of solid wastes, Microbiology of composting, Biosorption and Water & Wastewater Treatment. He has published numerous papers in various reputed journals. He is also the head of Waste Management Research Group (WMRG), a group that focuses on the biological treatment of various wastes.

COURSE PLAN :

Week 1**:** Evolution of Solid Waste Management

Week 2**:** Sources/Types and Characteristics of Solid Waste

Week 3**:** Generation of Solid Waste

Week 4**:** Waste Handling, Separation, storage, and Processing

Week 5**:** Collection of Solid Waste

Week 6**:** Transfer and Transport

Week 7**:** Separation and processing of Solid Waste

Week 8**:** Chemical Transformation (combustion/incineration)

Week 9**:** Biological Treatment (Composting)

Week 10**:** Biological Treatment (Anaerobic Digestion)

Week 11**:** Disposal of Solid Waste

Week 12**:** ISWM and legistlation