

Course title: Environmental Modeling			
Course code: NRE 171	No. of credits: 4	L-T-P: 42-18-0	Learning hours: 60
Pre-requisite course code and title (if any): NRE 131 Environmental Chemistry and Microbiology			
Department: Natural and Applied Sciences			
Course coordinator: Dr Adil Masood		Course instructor: Dr Adil Masood	
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Course type: Elective		Course offered in: Semester 3	
<p>Course Description</p> <p>The environmental problems result from a complex interaction of physical, chemical and biological processes, involving land, water, air and energy resources that significantly affect human activities and attitudes. The complex and multidisciplinary nature of environmental problems requires that they are dealt in an objective and integrated manner. Quantitative tools provide the requisite objectivity in environmental decision-making. These tools help in investigating, understanding, representing the current and predicting the future state of environment and generating ‘what-if’ scenarios under alternative policy interventions. These are crucial for any integrated environmental assessment and management strategy. This course aims to provide introduction to the fundamental modeling concepts and their applications in simulating the pollutant fate and transport problems in the natural environmental systems.</p>			
<p>Course objectives</p> <ol style="list-style-type: none"> 1. Understand the idea, methodology and basic tools of environmental modeling 2. Understand the different modeling approaches, their scope and limitations 3. Understand the fate and transport of pollutants 4. Become aware of a wide range of applications of modelling in environmental management & decision making 			