**Course title:** Urban Ecology and Environment  
**Course code:** MEU 121  
**No. of credits:** 3  
**L-T-P:** 34-4-8  
**Learning hours:** 42  
**Department:** Department of Policy Studies  
**Course coordinator:** Ms Deepty Jain  
**Course instructor:** Ms Deepty Jain/ Mr Subarat Mazumdar  
**Pre-requisite course code and title (if any):** none  
**Contact details:** deepty.jain@teriuniversity.ac.in  
**Course type:** Compulsory  
**Course offered in:** Semester 2

**Course description**

This course provides an ecological perspective to the environmental challenges and opportunities related to urban development adopting an inter-disciplinary approach. Urban Ecology and Environment is a Semester I course offered to the M Tech Urban Development and Management programme students.

The course is structured under five modules: Module 1 introduces the concepts of urban ecology and Module 2 focuses on green spaces, bio-diversity conservation and conflicts. Module 3 focuses on the urban environmental issues such as air and water quality and Module 4 focuses on the analytical tools such as Environmental Impact Analysis. Module 5 deals with challenges of climate change and mitigation and adaptation measures for cities.

**Course objectives**

- To introduce the concepts and theories of ecology in urban context.
- To explain the principles and strategies for bio-diversity conservation and management for sustainable urban development and the associated conflicts.
- To impart the knowledge on evaluating the environmental and social impacts of urban development and introduce strategies dealing with global challenges of climate change in cities.

**Course contents**

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<td>Module 1: Concepts of urban ecology</td>
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<td>a) Theories of urban ecology and linkages with sustainable urbanism</td>
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<td>b) Concepts of Eco cities, smart cities, compact cities etc.</td>
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<td>c) Challenges and opportunities of urban, rural and peri-urban growth</td>
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<td>Module 2: Green Spaces, bio-diversity conservation and conflicts</td>
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<td>a) Urban greens: challenges and choices for management</td>
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<td>b) Human nature interactions and urban forest management</td>
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<td>a) Industrial ecology and symbiosis</td>
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<td>c) Urban water ecological challenges</td>
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<td>a) Environmental Impact Analysis</td>
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</table>
b) Social Impact Analysis and Strategic Environmental Assessment

c) Urban metabolism and Ecological Footprint Analysis

5. Module 5: Climate change, mitigation and adaptation

a) Climate modifications and managing climate change challenges in cities

b) Adaptation and mitigation measures to make cities resilient

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Evaluation criteria

Weightage (%)

Minor Test: 20%
Assignment: 40%
Final Examination: 40%

Learning outcomes

On completion of this course, the students would:
1. Gain a wider understanding of urban ecological and environmental issues ranging from biodiversity to climate resilience and appreciate potential approaches for cities to deal with ecological and environmental challenges and threats of climate change.
2. Enhance abilities and skills relating to evaluation of environmental and social impacts of urban development.

Pedagogical approach

The course will be delivered through a mix of classroom lectures and case studies discussions and study visit.

Materials

Books
5. WWF India (2011) Impact of urbanization on bio-diversity: Case Studies From India
Select Papers from the following Journals
1. Journal of Environmental Management
2. Journal of Environmental Impact Assessment Review

Additional information (if any): NA

Student responsibilities:
The students are expected to submit assignments in time and come prepared with readings when provided.

Course reviewers

1. Dr Harini Nagendra, ATREE, Royal Enclave, Sriramapura, Jakkur Post, Bangalore 560 064, Karnataka.
2. Dr Suneel Pandey, TERI, India Habitat Centre, Lodhi Road, New Delhi