



KRVIA
Course

4



Living in Flux: Landscapes as Transformative Response to Climate Change



Image Source: Photo by [Anantha Krishnan](#) on [Unsplash](#)

Description of course

Aim:

The course deals with the holistic understanding of urban landscapes as complex ecological systems which encompass the dynamic relation between resilient ecology and space. The course is designed to provide exposure to the students regarding the latest studies, theory and research outcomes of climate change and socio-ecological resilience for human settlements. The students are encouraged to understand advanced concepts and explore relevant contextual frameworks and approaches for the planning and design of urban landscapes.

Course Objectives:

- a. To introduce students to the concept of 'Anthropocene' as a global epoch.
- b. To introduce students to advanced principles, concepts and methods of understanding socio-ecological resilience.
- c. To enable students to understand and discern the natural processes in the environment and their implications in the urban design and planning.



d. To demonstrate landscape approaches in the planning, design and management of the greenfield and brownfield sites through the help of socially and environmentally appropriate case studies of projects.

Learning Outcomes:

The students will be able to:

- a. discern relationships between various ecological systems and their interdependence
- b. articulate state of the art concepts of ecology and resilience studies
- c. use these concepts to develop their studio projects as well as find a trajectory in their future praxis.
- d. understand various modes of urban landscape interventions which are less intrusive than the conventional modes of handling sites.
- e. identify threats to urban landscapes due to developmental pressures.
- f. appreciate the ideas of sustainability and be able to align their thoughts in line with the UN Sustainable Development Goals.

Course Structure

Course Duration:

16 weeks

Course Frequency:

The Course is designed for the Final Year Postgraduate Students to be conducted every year once. (Semester 3 in the Indian Postgraduate system of two years)

Course Format:

The course is formatted as an Elective Course including Lectures/ Site Visits and Graded Assignments. Elective via Lectures and Presentations (Recorded and streamed online due to the current Covid Pandemic Crisis)



Course Content

Prerequisites for Participation:

The course is designed for Post Graduate Students in Architecture, Urban Studies (Urban Design, Urban Planning or any other allied stream), Landscape Architecture, Landscape Urbanism and Sustainability Studies.

A basic knowledge of urbanism and climate sciences would be beneficial for grasping the course but is not mandatory.

Course Syllabus:

Week No	Lecture Themes	Lecture Theme and Description
Week 1	Understanding Anthropocene	Introduction to the course and bridge with Sem 1 Course content Anthropocene: A Global Epoch: Lecture + Presentation
Week 2	Paradox of Infinite Growth-I	Ecological Footprint and Bio capacity: Lecture + Presentation Introduction of Assignment 1: Mapping + formulating ones 'Ecological Footprints'- Pre and Post Covid Lockdown (Footprint calculator link will be provided during the lecture)
Week 3	Paradox of Infinite Growth-II	Planetary Boundaries: Lecture with Presentation
Week 4	Understanding Climate Crisis	'Climate Crisis' and 'Ecological Resilience': Lecture on Coping, Adapting and Transforming in the changing climatic future Assignment 2: Discerning ecological resilience in Mumbai
Week 5	Southern Cities	'Climate Crisis' and 'Ecological Resilience': Lecture on Coping, Adapting and Transforming in the changing climatic future Assignment 2: Discerning ecological resilience in Mumbai



Week 6	Urban Wildlife	<p>'Urban Wildlife: Retrofitting Ecological Corridors in the city'</p> <p>Lecture and Presentation on urban wildlife and coexisting with other species.</p>
Week 7	Pandemics and Urban transformations	<p>Climate Change, Pandemics and Urban Transformations: Recorded Lecture + Presentation</p> <p>Lecture on how pandemics have shaped city life and urban design.</p>
Week 8	Resilient Urbanism	<p>Climate Change + Urban Resilience: Dealing with Urban Streams Recorded Presentation + Lecture</p> <p>Urban Regeneration via scientific understanding of hydrology and ecological landscaping</p> <p>Assignment 3: Group Research work and preparation for presentation: 'Eco-City Resume: Mapping Mumbai's Ecology'</p>
Week 9	Resilient Urbanism	<p>Climate Change + Urban Resilience: Dealing with Urban Streams Recorded Presentation + Lecture</p> <p>Understanding Fluvial morphologies and Riverine urbanism in the times of the climate crisis</p> <p>Room for the River Project, Netherlands</p>
Week 10	Resilience+ Climatic Response	<p>Climate Change + Urban Resilience: Urban landscapes as Green Infrastructure to combat Urban Flooding- Lecture + Presentation</p> <p>Sustainable Urban Drainage Systems (SUDS)</p>
Week 11	Connectivity and Transit as indicators of everyday resilience	<p>Energy Demands + Urban Transportation: Lecture + Presentation</p> <p>Alternative ideas: Tactical Urbanism and other urban 'acupuncture'</p> <p>Case Example- Curitiba</p>
Week 12	Eco-Restoration	<p>Ecological Restoration of Derelict Landscapes for Resilient Cities: Lecture + Presentation</p> <p>Landfill sites and management. Scientific restoration of Fresh Kills, Peri urban communities</p> <p>Urban wildlife</p>
Week 13	Urban Regeneration	<p>Regenerating the Southern City: Lecture + Presentation</p>



		Urban Transportation, Transit Oriented Development, Urban Design and Conservation possibilities Responding to Natural processes
Week 14	Landscapes as Resilient Living Machines	Food and its implication on Urbanism Local/Introduced Crops and its implications, Globalised Food supply Chains, Changing consumption patterns, Urban Agriculture Case Study: East Kolkata Wetland Bio-Region
Week 15	Urban Regeneration	Place Making as an Urban Regeneration tool: Highline Park, New York : Lecture + Presentation Eco-restoration of an urban blight, experimenting with urban flora, Concepts of Crime Prevention through Environmental Design (CPTED)
Week 16		Students' Research work Submission and Presentation: 'Eco-City Resume: Mapping Mumbai's Ecology' Final Marking and Discussion

Course Assignments:

Online Footprint calculator to calculate one's ecological footprint, Research paper and Group Research work culminating in a Research Presentation on the city's ecological resume.

Expected Time Spent on Course:

Time spent in hours: 32 hours of class +28 hours of researchwork

Time spent in ECTS (European Credit Transfer and Accumulation System): < 1 ECTS = 25 hours > 2

Course Grading

Assessment Criteria and Distribution of Marks:

Stages & Details	Percentage of Total Mark
Mapping + formulating ones 'Ecological Footprints'- Pre and Post Covid Lockdown (Footprint calculator link will be provided during the lecture)	20%
Research Paper: Discerning ecological resilience in Mumbai	30%
Group Research work and preparation for presentation: 'Eco-City Resume: Mapping Mumbai's Ecology'	50%
Total	100%



Course Evaluation

Evaluation Procedure & Criteria:

Deans and Academic advisors evaluate and comment upon the course structure before the course is conducted.

After the course, participant evaluation feedback analysis obtained through ERP is made available to individual faculty.

Faculty Evaluation:

Informal interactions in the studio by way of review of daily progress along with formal evaluation by way of juries as per the above provided course grading.

Student Evaluation:

Standard format by way of a questionnaire is available for the students to suggest their learnings as well as areas in which the course can improve.