

Course title: Urban Eco-System for Sustainable Cities				
Course code: NRE 161	No. of credits: 3	L-T-P distribution: 28-14-0	Learning hours: 42	
Pre-requisite course code and title (if any):				
Faculty: Dr Kamna Sachdeva	Department: Department of Natural Resources			
Course coordinator (s): Dr Kamna Sachdeva	Course instructor (s): Dr Kamna Sachdeva			
Contact details:				
Course type	Compulsory	Core	Elective	
Course offered in	Semester 1	Semester 2	Semester 3	Other
Course Description				
<p>The process of urban development has brought about deep and rapid changes in the land cover on earth. It has evidently challenged the natural bio diversity, wild life and environment. This is linked to a large extent to the intended and un intended consequences of human activity. At the same time, they are most vulnerable to the changes in the urban eco systems.</p> <p>This course focuses on the impact of the urbanisation on the natural resources and environment; processes that determines urban eco system; inter actions within the eco system and human interventions. It will enable the students to understand how the cities and eco system can co-exist and supports each other contiguously.</p>				
Course objectives				
The objectives of the course are to:				
<ol style="list-style-type: none"> 1. To understand issues of sustainability and its links urban eco - system 2. To analyse its impact on urban habitat and environment 3. To identify stakeholders and their role in sustainability of urban eco - system 4. To explore sustainable solutions for cities and environment 				
Course content				
SNo	Topic	L	T	P
1.	Urban ecology, sustainability and role of cities	4	2	
2.	Vegetative distributions in cities (green spaces)	4	2	
3.	Hydrological effects of urbanization (water demand/wet land/water conservation/waste water)	4	2	
4.	Land use and GIS	4	2	
5.	Urban Green Habitat	4	2	
6.	Eco - System services for cities	4	2	
7.	Climate change effects on cities	4	2	
	Total	28	14	
Evaluation criteria				
<ul style="list-style-type: none"> ▪ Tutorials/ assignments 20% ▪ 2 Minor tests 15 % each ▪ 1 Major test (end semester) 50% 				

Learning outcomes

1. After the completion of the course the students will be able to develop knowledge and understanding about the key concepts, its past and present approaches and critically analyse and implement best strategy for ensuring sustainability of our cities.

Pedagogical approach**Materials**

Required text

1. Allen A. and You N. (2002) Sustainable Urbanization: Bridging the Green and Brown Agendas, University College London, UK.
2. Jari N., Jürgen H.B., Guntenspergen G., Nancy E.M., Elmqvist T. and James P. (ed) (2011) Urban Ecology: Patterns, Processes and Applications, Oxford University Press, New York, US.

Suggested readings

1. Gaston K.J. (ed.) (2010) Urban Ecology, Cambridge University Press, Cambridge, United Kingdom.

Case studies

Websites

Journals

1. Environment Development and Sustainability
2. Urban Ecosystems

Additional information (if any)**Student responsibilities**

Attendance, feedback, discipline, guest faculty etc