

2020 NKB1

Monday, August 17, 2020

Environmental Studies: Unit II – Ecosystem**Instructor: Dr. Narendra K Bairwa****Assistant Professor****School of Biotechnology, Shri Mata Vaishno Devi University, Katra,
Reasi, Jammu and Kashmir**

Hello! Students, This is Dr. Narendra and I would like to help you to learn about the course syllabus, lesson plan and evaluation criteria for the EVS course.

Syllabus**Environmental Studies (BTL 2304)**

BTL 2304			Environmental Studies				Pre Requisites			
Version R-01							Co-requisites			
L	T	P	C	Minor Duration	Major Duration	Internal Marks	Minor-I Marks	Minor-II Marks	Major Marks	Total Marks
3	0	0	3	1.5	3 Hours	10	20	20	50	100

Significance and Objectives of the Course:

The main objectives of this course are to enhance knowledge, skills and attitude towards environment and its management. Further, to understand the relationship between human activities and natural environment.

Course Outcomes:

After successful completion of this course, students shall be able to:

1. Understand about basics of environment and the impact of human activities.
2. Understand the importance of multiple disciplines in addressing the environmental issues.
3. Understand sustainable environmental management approaches.

Course Contents

Unit-I: The Multidisciplinary Nature of Environmental (10 Contact Periods)
Studies and Natural Resources

Definition; Scope and importance, Need for public awareness. Natural Resources, Renewable and non-renewable resources, Natural resources and associated problems. Forest resources, Water resources, Mineral resources, Food resources, Energy resources, Land resources

Unit-II: Ecosystems (6 Contact Periods)

Concept of an ecosystem, Structure and function of an ecosystem, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Forest ecosystem, Grassland ecosystem, Desert ecosystem

Unit-III: Environmental Pollutions (8 Contact Periods)

Definition, Causes, effects and control measures of Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste Management: Causes, effects and control measures of urban and industrial wastes.

Unit-IV: Social issues, Human Population and the Environment (10 Contact Periods)

From unsustainable to sustainable development, Urban problems related to energy, Water conservation, Resettlement and rehabilitation of people; its problems and concerns. Population growth, Environment and human health, Human Rights, Value Education, Women and Child Welfare, Role of information Technology in Environment and human health.

Unit-VII: Field Work (Equal to 5 Contact Periods)

- Visit to a local area to document environmental assets-river/forest/grassland/hill/mountain.
- Visit to a local polluted site-urban/rural/industrial/agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.

Recommended Books:

1. Bharucha E, Environmental Studies for Undergraduate Courses, 2nd Ed., University Press (India) Pvt. Ltd. 2013
2. Cunningham W and Cunningham M, Principles of Environmental Science, 9th Ed., McGraw-Hill Education, 2019
3. Sharma PD, Ecology and Environment, 13th Ed. Rastogi Publications, 2017
4. Gary S. and Thorpe MS, Barron's AP Environmental Science, 6th Ed., Barrons Educational Series, 2015
5. Romm J, Climate Change: What Everyone Needs to Know® 1st Ed., Oxford University Press, 2016
6. Fortey R, The Wood for the Trees: One Man's Long View of Nature, Knopf, 2016

The EVS course is a non-credit and it requires more the 75 % of attendance in the online classes and if attendance falls below it, you expect reduction in the grades.

The evaluation is going to be based on performance in mid-term, final examination and Assignment submission on time the syllabus for the midterm exam includes the **Unit I and Unit II syllabus**.

Dr. Preeti Sharma, Assistant Professor, SoBT is the course coordinator and is instructor for Unit I. I will be your instructor for the Unit II of the syllabus. Dr. Vinod Singh, Assistant Professor, SoBT, would cover the Unit III, and Dr. Ekta Rai, Assistant Professor is instructor for the UNIT IV.

However in the weekly classes I would be interacting with you on each UNIT'S study material.

If you have any doubt please feel free to share with us. We look forward for interactions and happy learning. Stay safe and active for your learning in this pandemic time and take care.

We would cover UNIT –II in eight modules

Module 1	Concept of an ecosystem,
Module 2	Structure and function of an ecosystem
Module 3	Energy flow in the ecosystem,
Module 4	Ecological succession
Module 5	Food chains, food webs & ecological pyramids
Module 6	Forest ecosystem
Module 7	Grassland & Desert ecosystem
Module 8	Q&A and Revision session