Gyanmanjari Innovative University

Course Syllabus
Gyanmanjari Institute of Design
Semester-1 (B. Design)

Subject: Environment Science – BDEIF11203

Type of course: Value Added Course

Prerequisite: Basic knowledge of environment and ecology.

Rationale: To inculcate the environmental values translating into pro-conservation actions. Honorable Supreme Court of India has made it 'mandatory' to introduce a basic course on environment at the undergraduate level.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
				Theory Marks		Practical Marks		CA	
CI	T	P	C	ESE	MSE	V	P	ALA	
2	0	0	2	60	30	10	00	50	150

Legends: CI-ClassRoom Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1	**Global Case Study** Case study on environmental issues given by faculty. Analysis and outcome will be submitted by students on GMIU web portal.	10
2	**Shoot & Quote** Submit Five photos in GMIU web portal. with appropriate quotes of environment Pollution.	10
3	**Community Connect** Student should participate in social activity related to the environment and submit selfie/photographs in GMIU web portal.	10
4	**Poster Presentation** Based on theme assigned by faculty and students will upload in GMIU web portal..	10

5	**Quiz** Unit wise quiz of 10 MCQ's. Faculty will conduct the particular chapter test that will be arranged in the class, and faculty will mark upload in GMIU web portal. and marks will be uploaded to the GMIU web portal.	10
Total		50

Course Content:

Unit No.	Course content	Hrs	% Weightage
1	**Chapter-1: Fundamentals of Environmental Science** Environment and Environmental studies: Definition, concept, components and importance. Ecosystem and Ecology: Structure and Function of ecosystem, Brief concept of Autecology and Synecology. Food chain, food web and ecological pyramids. Biogeochemical cycles in ecosystems: (Carbon, Nitrogen and Phosphorous cycle).	8	25
2	**Chapter-2: Environmental pollution and Climate change** Definition, causes, effects and control measures of: a. Air pollution b. Water pollution (thermal and marine pollution) c. Land pollution d. Radiation pollution and Nuclear hazard. e. Noise pollution **Chapter-3: Climate change** Global warming and climate change, Ozone depletion and impact, Acid rain: Causes , effects and control measures, the greenhouse effect	8	25
3	**Chapter-4: Natural Resources** Forest Resources: Uses and overexploitation of forests and consequences of deforestation. Water Resources: Use and consequences of over-utilization, concept of rain water harvesting and watershed management, water conflicts. Food Resources: Sources of food, food problems- Indian scenario, Impacts of modern agriculture on environment (Fertilizer - pesticide problem, water logging and salinity), Organic farming. **Chapter-5: Renewable energy** Energy Resources: Renewable and Non-Renewable energy sources, Renewable energy: Solar energy, Wind energy, Tidal energy, Biogas plant	8	25

4	**Chapter-6: Biodiversity and its conservation:** Definition, concept, levels and values of biodiversity. Biodiversity of India, India as a mega diversity nation, Hotspots of biodiversity. Threats to Biodiversity (Habitat loss, poaching of wildlife and man wildlife conflict) Conservation of Biodiversity, Ecotourism.	8	25

Suggested Specification table with Marks (Theory):60

Distribution of Theory Marks (Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	35%	40%	25%	0	0	0

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course the students should be able to:	
CO1	Understand the basic structure and functions of ecosystems, including biogeochemical cycles and ecological relationships.
CO2	Identify different types of environmental pollution, their causes, effects, and methods of control.
CO3	Comprehend the principles of sustainable utilization of natural resources and the application of renewable energy solutions to promote environmental health and conservation.
CO4	Value the diversity of life on Earth, identify the challenges it faces, and grasp conservation strategies, highlighting the importance of India's biodiversity hotspots.

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Reference Books:

[1] Environmental studies by Benny Joseph, Tata MCgraw-Hill-2005
[2] Environmental studies by Dr. D.L. Manjunath, Pearson Education-2006
[3] Environmental studies by R. Rajagopalan, Oxford Publication-2005
[4] Principles of Environmental Science by Cunningham. W.P. & Cunningham M.A.,TataMcGraw Hill Publishing Co. Ltd., New Delhi.
[5] Textbook of Environment & Ecology by Deeksha Dave and S.S. Katewa,Cengage Learning India Pvt. Ltd., Patparganj, Delhi, 2009