Bharath
INSTITUTE OF HIGHER EDUCATION AND RESEARCH
(Declared as Deemed - to - be - University under section 3 of UGC Act 1956)
NAAC
BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY
No.173, Agharam Road, Selaiyur, Chennai , T.N - 600 073.

Ref: BIHER/BIST/Civil//Spl/2019 **Date: 08/12/2019**

CIRCULAR

The School of Civil and Infrastructure Engineering is planned to conduct a Value Added Course on **Ecology and Environment** for the benefit of II, III, IV B.Tech students. This value added course is commences from 18/12/2019 with the duration of 38 hours (Two hour per day), The registration form which is available in the university website should be duly filled by the participants and to be submitted to the Coordinator at least 2 days before the commencement of course.

Contact:

Ms.S.THENDRAL
Assistant Professor / School of Civil & Infrastructure Engineering,
Course Coordinator
Bharath Institute of Higher Education & Research.
Email id: Thendral.civil@bharathuniv.ac.in

HOD/CIVIL

Head of the Dept.
(Civil Engineering)
Bharath Institute of Higher Education & Research,
Selaiyur, Chennai - 600 073.

SCHOOL OF INFRASTRUCTURE ENGINEERING

VALUE ADDED COURSE - Ecology and Environment

Date: 18.12.2019 **Year/Sem: II /IV**

Sl.NO	Reg No	Name of the students	Email id	Contacts Numb
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Topic: Ecology and Environment

Type of Course: value added course

Department: School of Civil and infrastructure Engineering

Pre-Requisites: Environmental Sciences

Course Duration: 38 hours (18.12.19)

Intended Audience: Civil Engineering Students

Industries Applicable To: All companies that deal with the Civil & Environmental engineering development

Coordinators: Ms S.Thendral & Mr. S. Rajesh

Objective:

- Discuss ecological applications and understand how ecology is the study of relationships between organisms and their environment.
- Examine the diversity of life and explain the biological processes that link them together.
- Apply concepts of biological evolution to all course topics.
- Examine plant diversity and explain the process of photosynthesis, nutrient uptake, reproduction, and adaptation to the environment.
- Explore ecological principals that link individuals at populations, community, landscape, and ecosystem levels.
- Investigate the effects humans are having on disrupting natural ecosystem function.

COURSE OUTLINE:

The lectures are aimed at posing various questions that are relevant for all students of engineering and management to incorporate sustainability and sensitivity to ecology and environment in their design of products, processes and systems. Ecology is the study of how organisms interact with each other and their environment at the population, community, and ecosystem levels. The goal of this course is familiarize you with ecological theory and its applications

Fundamental concepts, theoretical principles, and practical applications of modern ecology: the study of the interactions of organisms with each other and their environment. Laboratory classes of this introductory course involve field work and research projects geared towards ecological application

To gain an understanding of the broad biological significance of ecological theory, to gain an understanding of the questions that ecologists study, the methods they use, and the questions that remain unanswered. To develop your ability to apply quantitative skills to analyze and interpret ecological data, to develop your ability to apply quantitative skills to analyze and interpret ecological data

Value Added Course

Ecology and Environment

Content of Syllabus

S.No.	Syllabus Details	No. of Lecture Hours	Date	Time	Lecture Name
1.	Develop an understanding of ecology and how it is the study of relationships between organisms and their environment	2 hrs	21.12.2019	4 Pm To 6 pm	Ms.S. Thendral
2.	Identify how ecological systems form a hierarchy.	2 hrs	22.12.2019	4 Pm To 6 pm	Ms.S. Thendral
3.	Investigate nature using the scientific method.	2 hrs	23.12.19	4 Pm To 6 pm	Ms.S. Thendral
4.	Evaluate the ties between ecology and other disciplines	2 hrs	28.12.19	4 Pm To 6 pm	Ms.S. Thendral
5.	Develop and understanding of seasonal variation with solar radiation and how the earth intercepts solar radiation	2 hrs	29.12.19	4 Pm To 6 pm	Ms.S. Thendral
6.	Determine why air temperature decreases with altitude and how temperature influences moisture content of air	2 hrs	30.12.19	4 Pm To 6 pm	Ms.S. Thendral
7.	Discuss earth's rotation on wind and ocean currents	2 hrs	4.1.20	4 Pm To 6 pm	Ms.S. Thendral
8.	Discuss global patterns of air circulation, ocean currents, and precipitation.	2 hrs	5..1.20	4 Pm To 6 pm	Ms.S. Thendral
9.	Evaluate the influence of topography and microclimates on organism distribution.	2 hrs	6.1.20	4 Pm To 6 pm	Ms.S. Thendral
10.	Understand how the hydrologic cycle links all marine and freshwater aquatic ecosystems.	2 hrs	7.1.20	4 Pm To 6 pm	Ms.S. Thendral
11.	Identify water's distinctive properties and how this result from its structure.	2 hrs	8.1.20	4 Pm To 6 pm	Ms.S. Thendral
12.	Determine why light, temperature, and oxygen levels all generally decrease	2 hrs	11.1.20	4 Pm To 6 pm	Ms.S. Thendral

	with water depth				
13.	Discuss major constraints imposed on organisms by the transition from water to land.	**2 hrs**	12.1.20	4 Pm To 6 pm	Ms.S. Thendral
14.	Determine how plants are the dominant factor determining the vertical gradient of light.	**2 hrs**	13.1.20	4 Pm To 6 pm	Ms.S. Thendral
15.	Identify the distinguishing physical properties of soil	**2 hrs**	18.1.20	4 Pm To 6 pm	Ms.S. Thendral
16.	Evaluate a profile, water-holding, and ion exchange capacities of soil types	**2 hrs**	19.1.20	4 Pm To 6 pm	Ms.S. Thendral
17.	Compare asexual and sexual reproduction and forms of sexual reproduction	**2 hrs**	20.1.20	4 Pm To 6 pm	Ms.S. Thendral
18.	Describe types of animal mating systems and sexual selection of females.	**2 hrs**	21.1.20	4 Pm To 6 pm	Ms.S. Thendral
19.	Discuss how reproductive effort varies in timing, parental care, fecundity, latitude, and with habitat selection	**2 hrs**	22.1.20	4 Pm To 6 pm	Ms.S. Thendral

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A GRADE NAAC NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

BHARATH INSTITUTE OF SCIENCE AND TECHNOLOGY

CERTIFICATE OF PARTICIPATION

This is to Certify that DHARSHAN. K, Bharath Institute of Higher Education and Research, has participated in value added course on **'Ecology and Environmental'** presented by **Ms.THENDRAL. S, Assistant Professor,** Organized by School of Civil & Infrastructre Engineering, Bharath Institute of Science & Technology, BIHER from 18.12.2019 To 21.1.2020.

Coordinator

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VALUE ADDED COURSE

Feedback Form

Event Name: Ecology & Environmental

Event Venue: Date: 18/12/2019

Name of participant: Dharshan. K

1. How useful did you think this event was for you?

(Please circle the appropriate number where 1 = not at all useful and 5 = extremely useful)

1	2	3	4 ✓	5

2. Value added course is useful and well organized.

YES ✓	NO

3. Did you receive all the information you required at this Venue?

YES ✓	NO

4. **Would you like to attend any further Training Courses VAC**

YES ✓	NO

VALUE ADDED COURSE

Feedback Form

Event Name: Ecology & Environmental

Event Venue: Date: 18/12/2019

Name of participant: SHELJIN DAS

1. How useful did you think this event was for you?

(Please circle the appropriate number where 1 = not at all useful and 5 = extremely useful)

1	2	3	4	✓ 5

2. Value added course is useful and well organized.

YES ✓	NO

3. Did you receive all the information you required at this Venue?

YES ✓	NO

4. Would you like to attend any further Training Courses VAC

YES ✓	NO