

BITS PILANI, DUBAI CAMPUS
ACADEMIC-UNDERGRADUATE STUDIES DIVISION
SECOND SEMESTER 2022 – 2023

Course Handout (Part – II)

Date: 06.02.2023

In addition to Part I (General Handout for all courses appended to the Time Table) this portion further specific details regarding the course.

Course No. : BITS F225 (3 0 3)
Course Title : ENVIRONMENTAL STUDIES
Instructor-in-charge : Dr. Rusal Raj
Course Instructor(s) : Dr. Rusal Raj, Dr. Vijayallango, Dr. Geetha

Scope and Objective of the Course

Global environmental issues are gaining importance which are caused by the rapid industrialization and diversified ranges of human activities in pursuit of their day-to-day needs which makes this course very relevant. The natural resources and the impact of man – made activities on them will be discussed. The pollution problems with respect to water quality, air quality, solid waste, & other related aspects including social aspects and the effect on human population will be conveyed through this course which will create awareness. The Environmental Impact Assessment, which is a legislative tool to control pollution from waste generators will be discussed along with several case studies. The course focuses on a multi – disciplinary approach in understanding the principles in the subject for applying to real life problems.

Course Pre/Co- requisite (if any) & Catalogue / Bulletin Description: Given in the Bulletin 2022– 2023.

Text book(s) [T]

T1. Bharucha Erach "TB of Environmental Studies for undergraduate Courses ", Orient Black Swan, 2013

Reference Book(s) [R]

- R1.** Santra S. C, "Environmental Science", New Central Book Agency, 3rd ed., 2013.
R2. Masters Gilbert M., "Introduction to Environmental Engineering and Science", Pearson Education, Inc., Third Indian Reprint, 2004.
R3. Punmia B.C, A. Jain and A. Jain. "Water Supply Engineering", Laxmi Publications, 2nd ed., Reprint, Delhi, 1999.
R4. Davis, Mackenzie, and David Cornwell, "Introduction to environmental engineering". 5th ed. Boston: McGraw-Hill, 2012.
R5. Ruth F. Weiner and Robin A. Matthews., "Environmental Engineering", Fourth Edition. BH Publications, 2003.
R6. Wright, R.T & Dorothy F.B, "Environmental science-towards a sustainable future", 12th edition, Pearson New International Edition, 2014.

Course Plan:

Lec.No	Learning objectives	Topics to be covered	References @ (Chapters)
1-3	Introduction	Introduction to Environment, Atmospheric Sciences: Natural cycles	Ch 3-T1, Ch 2 – R1
4-8	Ecosystem and Climate	Concept of an ecosystem, Food chains and ecological pyramids, Ecological footprint, Meteorological aspects of environmental pollution	Ch 5 – R6, R1
9-14	Water Resource Management	Water Requirements, Water resources, utilization and its management, pollution and its mitigation.	Ch 5.2.2-T1
15-19	Air Pollution	Hazards on Criteria pollutants, Noncriteria pollutants, Air pollution meteorology, Atmospheric Dispersion	Ch.5-T1, Ch 19, 21 – R6; Ch 10- 12, 15 -R1
20-23	Noise and Light Pollution	Noise Pollution – Sound levels from several sources; Impacts; Control strategies. Light Pollution	Ch.5-T1, Ch 14 – R1, Ch 10 – R4, Ch 22 – R5
24-26	Human Population	Human Population and impacts of human activities on the Environment, Effects of issues like poverty on environment	Ch 6-T1, Ch 8, 9 – R6
27-30	Solid waste Management	Causes, effects and control measures of urban and industrial waste	Ch 5.3 -T1
31-35	Natural Resources & Sustainable Development	Depletion of Natural Resources, Sustainable and Renewable Resources, Consumerism and waste products, Biodiversity and its conservation	Ch 14, 15, 23 – R6, Ch 4, 6 – R1

36-39	Environmental Laws & Ethics	Laws and Regulations – Codes & standards Environmental Ethics & Corporate Social Responsibility	Ch 43,46-R1, Ch 1 – R5
40-42	Current Environmental issues	Climate Change, Global warming, Ozone layer Depletion, Desertification and Land Reclamation, Disaster Management	Ch16,17,21 – R5

Evaluation scheme:

No	Evaluation Components	Duration	Weightage	Date & Time	Venue
1	Assignment	-	10%	-	TBA
2	Midsem Test (Closed book)	90 Min	30%	04.04.2023 FN	
3	Case Study Project and Presentation	-	20%	-	
4	Compre Exam (Closed book)	3 Hrs	40%	08.06.2023 AN	

Mid-Sem Grading:

Mid-sem grading will be displayed after 2 evaluation components. (Refer Academic calendar for schedule).

Note: A student will be likely to get “NC”, if he / she doesn't appear / appear for the sake of appearing for the evaluation components/scoring zero in pre-compre total.

Makeup and Attendance policies:

Make-ups are not given as a routine. It is solely dependent upon the genuineness of the circumstances under which a student fails to appear in a scheduled evaluation component. In such circumstances, prior permission should be obtained from the Instructor-in-Charge (I/C). Students with less than 60% of attendance will not be allowed to avail the make-ups. The decision of I/C in the above matter will be final.

Attendance: Every student is expected to be responsible for regularity of his/her attendance in classrooms and laboratories, to appear in scheduled tests and examinations and fulfill all other tasks assigned to him/her in every course. A student should have a minimum of **60% of attendance** in a course to be eligible to appear for the Comprehensive Examination in that course. For the students under the purview of Academic Counseling Board (ACB), the Board shall prescribe the minimum attendance requirement on a case-to-case basis. Attendance in the course will be a deciding factor in judging the seriousness of a student which may be directly / indirectly related to grading.

General timings for consultation:

CCH Hour: Wed 2

General instructions:

Students should come prepared for classes and carry the prescribed text book(s) or material(s) as advised by the Course Faculty to the class.

Notices: All notices concerning the course will be displayed on the General Sciences Notice Boards.

Academic honesty and Academic Integrity Policy: Academic honesty and academic integrity are to be maintained by all students throughout the Semester and no type of academic dishonesty is acceptable.

Instructor-in-Charge
BITS F225

Contact Details:

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