AMITY UNIVERSITY
UTTAR PRADESH

Course Title: Environmental Toxicology & Health
Credit Units: 03
Course Code: BIOT313

L	T	P/S	SW/FW	TOTAL CREDIT UNITS
03	-	-	-	03

Course Objectives:

Theory: The course is designed to give students a perspective on the fate and impact of contaminants and toxicants on human health

Pre-requisites: Human Physiology, Cell Biology and Biochemistry

Student Learning Outcomes: By the end of the course, students would be able to:

- Have a comprehensive knowledge of the fundamentals of toxicology and ecotoxicology.
- Apply toxicology principles to the fate of toxicants and contaminants in the environment.
- Characterize the biological impacts of toxins and contaminants on "organic life".
- Be able to critically evaluate, discuss, explain, and present current topics in environmental toxicology.
- Identify and apply the clean up strategies for bioremediation of the major xenobiotics

Course Contents

Theory:

	Weightage (%)
Module I:	**20**

Principles of toxicology and classification of pollutants, Environmental fate of pollutants : Toxicant Transport and Their Fate into the Environment (including air, water, & soil)	
Module II:	**25**
Surface Pollutants, Heavy metal toxicity (lead, Cadmium, Cesium and Mercury) Biomagnification, Bioradiation, Biomedical Waste management, Use of Cosmetics and its effect on human health	
Module III:	**30**
Absorption of Toxins, Distribution of Toxins, Metabolism of Toxins and Elimination of Toxins in humans, Toxicant Interactions with Major Body Systems (respiratory, cardiovascular and Gastro Intestinal systems, Endocrine Disruptors and Carcinogenesis, Synergistic effects of toxin mixtures.	
Module IV:	
Occupational and industrial toxicology (waste Discharge, Occupation, Noise,etc),Clean-up Strategies (focusing on bioremediation and biodegradation), Industrial Waste management and Biomedical Waste management.	**25**

Pedagogy for Course Delivery:

Lectures: 39
Seminars/ Presentations: 4
Class Test: 2
Total: 45

Lab/ Practical details, if applicable:

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)	End Term Examination
100	**-**	**100**

Theory Assessment (L&T):

Components	Class Test 1	Class Test 2	Quiz	Attendance	End Term Examination
Weightage (%)	10	10	5	5	70

Text Books:

1) Environmental Toxicology David Wright and Pamela Welbourn, Cambrige University Press (2002). ISBN: 0-521-58151-6
2) Basic and Clinical Pharmacology, Mcgrill Lange, Bertram G. Katzung, Susan B. Masters, Anthony J. Trevor, 11th Edition (2009). ISBN: 9780071604055