Code	Subject Title	Cr. Hrs	Semester
CHEM-402	**Environmental Chemistry**	**2**	**VIII**
Year	Discipline		
4	**Chemistry**		

SYLLABUS OUTLINE:

1. **Land pollution:**
   Importance of soil, nature and composition of soil, macro and micro-nutrients in soil, soil erosion, pH of soil and nutrients availability, on-exchange in soil, sources of soil pollution (industry, agrochemicals, mining, muniopal waste, littering), reclamation of soil.

2. **Chemicals in the Environment and their impact:**
   Chemical speciation, heavy metals, persistent organic pollutants, aflatoxins, PCB's, pesticides and detergents, house hold chemicals, solvents. Impact of chemicals on human health, crops and vegetation, buildings and monuments, aquatic life, biodiversity, visibility, concept of green chemistry.

3. **Monitoring of Environmental Pollution and Legislation:**
   Principle, applications of analytical techniques for monitoring of pollution with special reference to OC, HPLC. – UV and IR spectrometry, Atomic absorption spectroscopy. Legislation aspects of environmental pollution, international standards regarding environmental pollution.

RECOMMENDED BOOKS:

1. Kumar. Environmental Chemistry, Wiley Eastern, New Delhi.
2. J.W. Moore & EM. Moore, Environmental Chemistry, Academic Press, New York.
3. S. K. Banerji, Environmental Chemistry, Prentice Hafl, Delhi.
4. K. Banerji, Environmental Chemistry, Tata Publisher, Delhi.
5. Staneley E. Manahan, Environmental Chemistry, Brooks, California.
6. Neil, P.O. Environmental Chemistry, Chapmann, London.
7. Baird, C. Environmental Chemistry, Freeman, New York.