Course Code : ENCM 12553
Title : Pollution and Environmental Health
Pre-requisite : ENCM 11522
Co-requisite : None
Status : Compulsory, Theory cum Practical

Learning outcomes:
After completion of the course unit, the student will be able to;

- describe the major types and causes for environmental pollution,
- explain the impacts of environmental pollution on ecosystem health, and
- demonstrate competencies in the application of appropriate control and management strategies to minimize the pollution impacts on ecosystems.

Course content:
An introduction to environmental pollution: pollution, pollutants, sources and types (point and area, primary and secondary), Atmospheric pollution: Types of air pollutants, Sources of air pollutants, Atmospheric effects of pollution: Ozone depletion, Global warming and Greenhouse effect, Acid deposition, Photochemical smog, Indoor air pollution, Thermal, odor and noise pollution, Impacts of air pollutants on vegetation including plant die back, materials, livestock and human health, Control and management of air pollution. Freshwater, brackish water, marine and groundwater pollution, types of aquatic pollutants, Sources, environmental effects, control and management strategies of following types of aquatic pollutants: sediments and suspended matter, nutrients and algal toxins, pesticides, Persistent Organic Pollutants, oil, human sewage, Thermal pollution, Radioactive material, Acid deposition, Heavy metals, Plastic waste, Monitoring of aquatic pollution, Water quality standards, Global and national case studies on aquatic pollution. Land Degradation: Acidification, alkalization and salinization of land, Leaching requirement and other remedial measures, Water logging and reclamation of water logged fields, Soil compaction and remedial measures, Prevention of pollution by leachate. Case study on pollution issues in Sri Lanka.

Method of teaching and learning:
A combination of lectures, field studies, computer based learning, assignments, and small group discussions.

Assessment:
In-course assessment and end of semester examination.

Recommended reading:

1. Godish, T. (2003). Air Quality. 4th Edition. Lewis Publishers. INC.
2. Goel, P. K. (2006). Water Pollution: Causes, Effects and Control.New Age International, India.
3. Harrison, R. M. (1996). Pollution, Causes, Effects and Control. 3rd Edition. The Royal Society of Chemistry, Thomas Graham House, Science Park, Cambridge.
4. Hill, M. K. (1997). Understanding Environmental Pollution. Cambridge University Press, Cambridge.
5. Mirsal, I. (2008). Soil Pollution: Origin, Monitoring & Remediation. Springer-Verlag Berlin Heidelberg.
6. Purohit, S. S. & B. Kakrani (2002). Air Environment and Pollution.Agrobios, India.