

Course Code : ENCM 31532
Title : Environmental Monitoring
Pre-requisite : ENCM 21542
Co-requisite : None
Status : Compulsory, Theory cum Practical

Learning outcomes:

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

- discuss applicability of different environmental monitoring approaches for environmental management,
- design monitoring programs relevant to key environmental issues, and
- demonstrate adequate competencies in analyses of selected environmental samples and present and interpret the results in a scientific manner.

Course content:

Importance of environmental monitoring for environmental management, data quality objectives, environmental data acquisition, scientifically reliable and legally defensible data; Applications of physico-chemical methods and bio monitoring methods, bio accumulators, bio indicators and biomarkers in environmental monitoring; Human bio monitoring methods; Design and execution of monitoring programmes relevant to key environmental issues, selection of priority parameters; Environmental sampling and sample handling; Quality assurance and quality control procedures.

Practical sessions on quality control and quality assurance procedures, Analysis of river water, well water and effluents using physico-chemical monitoring methods; Applications of selected bio monitoring approaches for monitoring environment, Case studies on designing environmental monitoring programs relevant to selected environmental issues in Sri Lanka.

Method of teaching and learning:

A combination of lectures, laboratory and field studies, computer based learning, assignments and discussions.

Assessment Strategy: Continuous assessment and end of semester examination. Percentage given for each sub component indicates the percent contribution to the final marks.			
Continuous Assessment 30 %		Final Assessment 70 %	
Details:		Theory	Practical
Group presentations	10	70	-
Lab reports	15		-
Individual assignments	5		

Recommended reading:

1. Artiola, J. F., I. L. Pepper &, M.L, Brusseau (2004). Environmental Monitoring and Characterization. Elsevier Inc
2. Csuros, M. (1997). Environmental Sampling and Analysis: Lab manual. CRC press, New York.
3. Patnaik, P. (2010). Handbook of Environmental Analysis: Chemical Pollutants in Air, Water, Soil, Solid Wastes. 2nd edition. CRC press, New York.
4. Wiersma, G.B. (2004). Environmental Monitoring. CRC Press, New York.
5. Zhang, C. (2007). Fundamentals of Environmental Sampling and Analysis. John Wiley and Sons, New Jersey.