Programme: M.Sc. (Marine Sciences)

Course Code: MSO 277 **Title of the Course: Environmental Impact Assessment Practical**

Number of Credits: 01

Effective from AY: June 2018-19

Prerequisites for the course	Students who have undergone courses of semester I of Marine Sciences.	
Objective	This course introduces field survey, sampling and experiments to assess impact on the environment.	
Content	1. Introduction to national and international standard values for ambient air, noise, water, sediments and industrial effluents (4 hrs; Ref 1,2) 2. On board trawler field trip to an estuary to get familiar with field study methods for collection of water, sediment and biological samples (10 hrs; Ref 3) 3. Determination of total dissolved solids in water (5 hrs; Ref 4, 5) 4. Determination of total suspended matter in water (4 hrs; Ref 6) 5. Determination of biogenic silica from sediments (6 hrs; Ref 7, 8) 6. Comparison of determined data with the national standard value (4 hrs; Ref 1, 2) 7. Analysis of environmental impact assessment reports available (4 hrs; Ref 1, 2)	24 hours
Pedagogy	Field survey and sampling / Laboratory experiments / Interpretations	
References / Readings	1. Environmental standards for ambient air, automobiles, fuels, industries and noise. Central pollution control board, Ministry of environment and forests, India, July 2000. 2. Standards and Thresholds for impact assessment, volume 3, Environmental protection in the European Union, 2008, Schmidt M., Glasson J., Emmelin L., Helbron H., Springer-Verlag Berlin Heidelberg. 3. Methods of seawater analysis, 1983 - Grasshoff K., M. Ehrdardt and K. Krembling (eds.), Verlag Chemie, Weinneim, 419. 4. Sokoloff V.P. (1933) Water of crystallization in total solids of water analysis. Industrial and Engineering Chemistry, 5:336. 5. Howard C.S. (1933) Determination of total dissolved solids in water analysis. Industrial and Engineering Chemistry, 5:4. 6. Liu D., Fu D., Xu B., Shen C. (2012) Estimation of total suspended matter in the Zhujiang (Pearl) River estuary from Hyperion imagery. Chinese Journal of Oceanology and Limnology 30:16-21. 7. Mortlock R.A., Froelich P.N. (1989) A simple method for the rapid determination of biogenic opal in pelagic marine sediments. Deep-Sea Research, Part A, 36:1415-1426. 8. DeMaster D.J. (1979) The marine budgets of silica and ^{32}Si. Ph.D. Dissertation, Yale University, 308pp.	
Learning Outcomes	1. Ability to conduct field survey and sampling for environmental impact assessment study. 2. Conducting laboratory experiments and interpretation of data.	