

Semester	JAN 2022
Open to semester	6,8
Course code	<b>EC3243</b>
Course title	<b>Analytical Geochemistry Lab</b>
Credits	3 /
Course Coordinator & participating faculty (if any)	Gyana Ranjan Tripathy
Nature of Course	Lab
Pre-requisites	None
Objectives (goals, type of students for whom useful, outcome etc)	Chemistry of geological samples has frequently been used to study and understand several earth system processes and their controlling factors. Recognizing this, this lab course on geochemistry will demonstrate frequently-used analytical experiments to constrain chemical composition of water, sediment and rock samples. Specifically, the student shall measure several parameters in water (e.g. alkalinity, dissolved oxygen, and silica), and rock and sediment (sample powdering, dissolution and major and trace element analyses) samples during this course. This course, therefore, will provide hand-on experience to undergraduate samples to generate geochemical data of good quality.
Course contents (details of topics /sections with no. of lectures for each)	Lab protocols, safety and statistics; Basic principles of sampling and geochemical analyses of rocks, sediment, and water. Aquatic geochemistry: Salinity, Alkalinity, Dissolved oxygen, Nutrient analyses; Rock and sediment Geochemistry: Sample Dissolution; major and trace elemental analyses, Inorganic and organic carbon; Data presentation, analysis and interpretation.
Evaluation /assessment	End-Sem Examination-35% Mid-Sem Examination-35% Others-30%
Suggested readings (with full list of authors, publisher, year, edn etc.)	1. P.J. Potts: A handbook of Silicate rock analysis, 1992, First edition, Springer Science, LLC. 2. K. Grasshoff, K. Kremling, M. Ehrhardt: Methods of seawater Analysis, 1999, Third Edition, Wiley, VCH. 3. J. Strickland, T. R. Parsons: A Practical Handbook of seawater analysis. Second edition, 1972, The Alger Press Ltd.