

Course code: 464VAC1	Course – I FIELD GEOLOGY	Credits: -	Hours: 10
<b>Objectives</b>	<ul style="list-style-type: none"> <li>➤ To learn the field methods and geological mapping.</li> <li>➤ To understand the field instruments and collecting of samples</li> <li>➤ To understand the geological structures and rock types.</li> </ul>		
<b>Unit: I</b>	Role of Field geology and field geologist- Field methods and Types of investigations- Purpose of Geological mapping- Field maps- Scale of maps. Topographic expressions and relief-Investigation of out crops-inlier and outlier-Soils and vegetation..		
<b>Unit: II</b>	Previous literature and importance - Selection of camp site- Climate and region: Arid, Semiarid and Mountain. Organization of field camp-Requirements and precautions-Equipment and supplies Basic, Additional, Supplementary, Special and Optional. Components and uses of Clinometer and Brunton Compass.		
<b>Unit: III</b>	Geological Mapping-General considerations- Depiction of relief- Latitude and longitude-Map Grids Investigation of surface features, cuttings, quarries and mines. Measurement of strike and dip Bearing and reading directions. Outline of field work with igneous, sedimentary and metamorphic rocks.		
<b>Unit: IV</b>	Samples and sampling methods- Trimming of hand specimens, fossil specimens, mineral specimens. Numbering, labeling, packing and storage of samples. Symbols for geologic maps and lithology. Marking on maps-Mounting and folding of field maps. Field photographs. Applications of computer in preparation of geological map and writing report.		
<b>Unit: V</b>	General geological setting-structure and tectonics of Tamil Nadu. Distribution of important rock types of Tamil Nadu. Geoheritage sites of Tamil Nadu.		
<b>Reference and Textbooks:</b> <ol style="list-style-type: none"> <li>1. F.H.Lahee (2002) Field geology, 6 th ed. McGraw Hill, Publishers.</li> <li>2. C.L.Dake and C.S.Brown. Interpretation of topographic maps,</li> <li>3. J.W.Low (1957) Geological field methods, Harper &amp; Brothers publishers.</li> <li>4. R.R. Compton (1962) Field Geology, Wiley Publishers.</li> <li>5. S.M.Mathur (2015) Guide to Field Geology, PHI Learning Private Limited, Delhi.</li> <li>6. J.D. Foresten. Principles of field and mining geology, Wiley Publishers</li> <li>7. G.W.Himus and G.S.Sweeting. Elements of field geology,</li> <li>8. G.W.Chiplonker (1960) Geological Maps, Dastane Bros., Pune.</li> <li>9. W.B.Upton (1986) Landforms and topographic maps, John Wiley Publishers.</li> <li>10. N.W.Gokhale (1987) Manual of geological maps, CBS Publishers and Distributors.</li> </ol>			
<b>Outcomes</b>	<ul style="list-style-type: none"> <li>➤ To understood the field mapping methods.</li> <li>➤ Realized how to operate the field instruments and collect the samples.</li> <li>➤ Gain the knowledge geological structures.</li> </ul>		