

Course Type	Course Code	Name of Course	L	T	P	Credit
DP	NGLC530	Engineering Geology Practical	0	0	2	1
<b>Course Objective</b>						
1. The student will gain knowledge for identification of geotechnical problematic zones, their preparation and treatments to improve the strength of ground and construction of engineering geological structures and natural hazards.						
<b>Learning Outcomes</b>						
Upon completion of the course, students will be able to:						
<ul style="list-style-type: none"> <li>• Demarcate various kinds of geological strata for their engineering use.</li> <li>• Identify and delineate geotechnical weak zones and suggest various kinds of treatments. .</li> <li>• Determine various geotechnical problems related to foundation of engineering structures and instability of strata.</li> </ul>						
Unit No.	Topics to be covered	Lecture Hours	Learning Outcome			
1.	Exercise on engineering geological maps general. .	4	Different types of geological strata for their engineering use.			
2.	Preparation of zonation map and sections	4	Limit of weak zones and treatments			
3..	Geotechnical analysis of engineering geological map of hydropower site	4	Geotechnical problems and instability of foundation strata of hydropower project.			
4.	Evaluation of geotechnical problem along tunnel alignment.	4	Identification of problematic zone along tunnel development.			
5.	Identification of suitable road alignments	4	Location of suitable road alignments			
6	Delineation of problematic zones in valley side	4	Identification of engineering geological problematic zone			
7	Landslide and slope instability	4	Assessment of ground slopes and safety			
	Total	28				

**Text books:**

1. Jumkis, A.R. (1983). Rock Mech. 2nd Ed, Trans Tech Vol.7.
2. Gripps, J.C.et al., (1993). Engineering Geology of Weak Rocks. Geol. Soc. London, A.A Balkema.

**References Books:**

1. Reddy, D.V. (2016). Engineering Geology, Vikas Pbl.