Course Type	Course Code	Name of Course	L	T	P	Credit
DC	GLC202	**Physical and Structural Geology**	3	0	0	9

Course Objective

Through this Introduction to course, the students will get to know the different rocks types.

Learning Outcomes

Upon successful completion of this course, students will be able to:

- Learn the fundamentals of Structural Geology
- Understand geomorphic processes
- Appreciate fundamentals of plate tectonics
- Use of geological map and identification of geomorphic features

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Physical Geology: Evolution of the earth; Exogenous and Endogenous Processes shaping the earth; Weathering, Erosion, Transportation and Deposition	6	This will help the student to understand what are the different process operation on earth surface and how they are constantly changing
2	Geological work of running water, wind, glaciers, seas and ground water; Diastrophism; Earthquakes and volcanoes.	6	The topic will elaborate the activity of different agents and their contribution.
3	Structural Geology: Interpretation of topographic maps; Attitude of planar and linear structures; Effects of topography on outcrops.	7	This topic will give understanding about topographic map, identification of topographic features and usage.
4	Unconformities, folds, faults and joints - their nomenclature, classification and recognition.	10	Students will get fundamental ideas about different structures in structural geology.
5	Forms of igneous intrusions - dyke, sill and batholith. Effects of folds and fractures on strata/ore bodies and their importance in exploration activities.	7	It will give fundamental idea about intrusive igneous structures.
6	Principles of stereographic projection. Introduction to Plate Tectonics.	6	This topic will cover fundamental of stereographic projection and plate tectonics.

Text Books:

1. Hefferan, K. and O'Brien, J., 2010. Earth Materials, Wiley-Blackwell, Sussex; 670 p.
2. Van der Pluijm, B.A., Marshak, S., 2004. Earth Structure – An Introduction to Structural Geology and Tectonics, W.W. Norton & Company, New York; 656 p.

Reference Books:

1. Jain, S., 2014. Fundamentals of Physical Geology, Springer, New Delhi; 494 p.
2. Davis, G.H., Reynolds, S.J., 1996. Structural Geology of Rocks and Regions, John Wiley & Sons, Inc., New York; 776 p.
3. Billings, M.P., 1987. Structural Geology, Prentice Hall of India, New Delhi; 514 p.
4. Lisle, R.J., 2004. Geological Structures and Maps, Elsevier Butterworth-Heinemann, Oxford; 106 p.