

AG-101: GENERAL GEOLOGY

(03 Credit hrs)

Prerequisite: F.Sc. or Equivalent

Learning Outcomes

This course is designed to acquire the

- knowledge about the basic concepts of geology.
- This will help the students to get knowledge about various types of rocks and minerals and the processes of their formation.

Course Contents

Introduction and scope of geology, its importance and relationship with other sciences. Earth as a member of the solar system; its origin, age, composition and internal structure. Minerals and their physical properties. Introduction to rocks. Moon, Earth's neighbors, meteorites, earthquakes and volcanoes. Weathering and erosion and related land forms. Primary sedimentary, igneous and metamorphic structures. Introduction of folds, faults, joints, cleavage, foliation, lineation and unconformities. Isostasy; Introduction to plate tectonics, mountain building processes.

Study of relief features with the help of models and topographic maps. Simple geological maps and drawing of cross-sections. Use of field instruments viz, Brunton Compass/Clinometer.

TEACHING – LEARNING STRATEGIES

- Lecture based examination
- Presentation/seminars
- Class discussion
- Quizzes

ASSIGNMENTS – TYPE AND NUMBER WITH CALENDAR

It is continuous assessment. The weightage of Assignments will be 25% before and after midterm assessment. It includes:

- classroom participation,
- attendance, assignments and presentation,
- homework
- attitude and behavior,
- hands-on-activities,
- short tests, quizzes etc.

ASSESSMENT AND EXAMINATIONS

Sr. No.	Elements	Weightage	Details
1.	Mid Term Assessment	35%	It takes place at the mid-point of the semester
2.	Formative Assessment	25%	It is continuous assessment. It includes: classroom participation, attendance, assignments and presentation, homework, attitude and behavior, hands-on-activities, short tests, quizzes etc.
3.	Final Assessment	40%	It takes place at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.

Books Recommended

1. Principles of Physical Geology by Holmes, A., 1978, Nelson.
2. Foundation of Structural Geology by Park, R.G., 1983, Blackie
3. Elementary exercises upon Geological Maps by Platt, J.I, latest Ed., Thomas Murby & Co.
4. An introduction of Geological Structures and Maps by Bennison, G.M., latest Ed., Edward Arnold.
5. Physical Geology by Plummer, Mcgeay & Carlson, 2005.
6. Lab. Manual for Physical Geology by Jones, Noris. W., Johnes, Charles E., 2005, McGraw Hill.
7. How does Earth work: Physical Geology and Process of Science by Smith, G., and Pun, A., 2006, Prentice Hall.
8. The 3D Mapping of Geological Structures by McClay, K.R., 1987, Open University Press.