

**AG-305 Mining Geology****Credit Hours 2+1****Prerequisite:** F.Sc or Equivalent**Learning Outcomes**

The student will be able to learn about

- Pakistan is rich in different economic mineral resources
- country is severally affected by energy and economic crises.
- Keeping in view country's energy and economic crises, a course on mining geology is introduced.

**Course Contents**

Terminology related to mining; mining survey techniques; surface and subsurface mining methods; opening of mines; structural controls in mining; correlation of surface and subsurface data; spatial relationship of seams; surface and underground mapping methods; calculation of ore grade and tonnage; gases 47 in mines and spontaneous combustion; rock pressure and support; collapses in mines and their safety/remedial measures; mine-refuse disposal management; ore grade control in mining; impact of mining on environment and their remedies and rehabilitation; introduction to mining explosives; coring, core logging and data interpretation; the effects of gasses and radioactive isotopes on miners health. Miner's diseases, their monitoring and remedial measures.

**Lab.**

**Labs:** Bore-hole data interpretation. Ore grade and tonnage/reserve estimation.

**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.

### Recommended Books

1. Mining Geology by Mckinstry, H.B., 1948, Prentice Hall.
2. Exploration and Mining Geology by Peters, W.E., 1978, John Wiley and Sons.
3. Techniques in Mineral Exploration by Reedman, J.H., 1979, ASP.