

MINERAL EXPLORATION AND MINING GEOLOGY

Code	Credit Hours
MinE-817	3-0

Course Descriptions.

Ore Deposit Geology and Industrial Minerals, Economics, Processing & Environment, GIS and Remote Sensing, Site Investigation Including Near Surface Geophysics, Advanced geoscientific Computing and Data Management, Exploration Targeting, Exploration and Mining Geology

Textbook:

1. Bell, F.G (1987), Ground Engineer's Reference Book, Butter worths, London.

References Book:

1. Bowles, J.E., (1988), Foundation Analysis and Design, Chapter 2, McGraw Hill, New York.

Pre-Requisites:

Nil

ASSESSMENT SYSTEM FOR THEORY

Quizzes	15%
Assignment	5%
Mid Terms	30%
ESE	50%

Teaching Plan

Week No	Topics	Learning Outcomes
1-2	Introduction	CourseOutline,objectives,teachingplan,assessmentmethod, conceptsreview. Introduction to ore deposit, various types of industrial minerals, geology of various rocks
3-5	Excavation of ore	Mineral deposit economic evaluation, processing of ores and environmental concern
6-8	GIS and Remote Sensing	Application of GIS, and remote sensing for mineral exploration

9	MID TERM EXAM	
10-12	Site Investigation	Mineral deposit characterization using various techniques such as drilling, gravity, magnetic, electrical resistivity, and electromagnetic
13-15	Computing and Data Management	Various software and computer programming and its application for mineral exploration.
15-17	Exploration and Mining Geology	Exploration Targeting, Exploration and Mining Geology
16	Numerical Modelling	Various numerical modelling for coal mine stability analysis
17	Subsidence monitoring	Subsidence monitoring techniques for underground coal mining
18	END SEMESTER EXAM	