

GEOSTATISTICAL ORE RESERVE ESTIMATION

Code	Credit Hour
MinE-821	3-0

Course Description.

Introduction to the application and theory of geostatistics in the mining industry Planning Processes and Cycles, Introduction to the application and theory of geostatistics in the mining industry , Fundamental geostatistical concepts , Concepts of Variogram, Geostatistical simulation, Case studies

Textbooks

1. G. Journel, Ch. J. Huijbregts, Mining Geostatistics

References Book:

1. Michel David (1977), Geostatistical Ore Reserve Estimation. ISBN0444597611, 9780444597618

Pre-Requisites:

Nil

ASSESSMENT SYSTEM FOR THEORY

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

Teaching Plan

Week No	Topics	Learning Outcomes
1-4	Geostatistics and theory	CourseOutline,objectives,teachingplan,assessmentmethod, conceptsreview. Introduction to the application and theory of geostatistics in the mining industryPlanning Processes and Cycles
5-8	Fundamental geostatistical concepts	Introduction to the application and theory of geostatistics in the mining industry, Fundamental geostatistical concepts. Kriging methods for spatial interpolation, geostatistical simulation techniques for uncertainty quantification, and spatial data visualization to effectively

		analyze and model spatial data
9	MID TERM EXAM	
10-11	Variogram	Variogram analysis for spatial variability assessment
12-13	Geostatistical simulation	Geostatistical simulation involve in mineral exploration (triangulation, cross section, polygonal methods)
14-17	Case studies	Real time mineral exploration case studies.
18	END SEMESTER EXAM	