EARTH MOVING EQUIPMENT, TECHNOLOGY AND MANAGEMENT

Code	Credit Hour
MinE-842	3-0

CourseDescription

Soil and rock properties, Principles of earth moving machine design, Machine-job applicability and performance, Machine design characteristics, Power requirements, Production measurements and calculations, Rock drilling and blasting principles, Rock ripping and dozing, Earth loading methods, Earth hauling and conveying equipment, Wheels versus tracks, Ripping and blasting, Draglines, excavator shovels and grading equipment; matching equipment Construction of haulage roadways, Applications of Queueing theory, Computer programs for optimizing operations, Computerized truck dispatch and GPS earth moving applications, Optimizing system and job layout selection by advanced manual and computerized techniques, Safety on site.

Textbook:

1. Herbert.N. and David.D. "Moving The Earth: The Workbook of Excavation". ISBN-13: 978-0071502672

ReferenceBook:

Nil

Prerequisites

Nil

ASSESSMENT SYSTEM FOR THEORY

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

TeachingPlan

Week No	Topics	LearningOutcomes
1	Introduction	CourseOutline,objectives,teachingplan,assessmentmethod, conceptsreview. Introduction to earth moving equipment, technology and management
	Comprehensive	Soil and rock properties, Principles of earth moving

2-6	Overview of Earthmoving and Construction Machinery	machine design, Machine-job applicability and performance, Machine design characteristics, Power requirements, Production measurements and calculations, Rock drilling and blasting principles.
7-8	Rock ripping and dozing	Rock ripping and dozing, Earth loading methods, Earth hauling and conveying equipment, Wheels versus tracks, Ripping and blasting, Draglines, excavator shovels and grading equipment; matching equipment Construction of haulage roadways
9	**MIDTERM EXAM**	
10-14	Applications of Queueing Theory and Optimization Techniques in Operations	Applications of Queueing theory, Computer programs for optimizing operations, Computerized truck dispatch and GPS earth moving applications.
15-17	Advanced manual and computerized techniques	Optimizing system and job layout selection by advanced manual and computerized techniques, Safety on site.
18	**END SEMESTER EXAM**	