ARTISANAL MINING INSTITUTE (AMI)

SHORT COURSES CURRICULUM

DURATION: 3Weeks to 6Months

Eligibility: Form 4 Education

1. Mineral Exploration

Module	Unit	Assessment
i. Introduction to Mineral Exploration	• Basics of Geology and Mineralogy; • Overview of Mining & Mineral Exploration Industry	Quiz, assignments
ii. Geological Mapping and Field Techniques	• Topographic Maps & GPS; • Rock, Soil & Mineral Sampling; • Field Safety & Protocols	Field exercises, practical report
iii. Geochemical and Geophysical Methods	• Geochemical Sampling Techniques; • Introduction to Geophysical Surveys; • Data Interpretation	Practical exercises, mini-project
iv. Mineral Deposit Evaluation	• Types of Mineral Deposits; • Estimation of Mineral Resources; • Basic Report Writing	Case study and report submission
v. Exploration Project Work	• Conducting a Mini Exploration Project; • Data Analysis & Presentation	Project report and presentation

2. Mining Geology

Module	Unit	Assessment
i. Fundamentals of Mining Geology	• Introduction to Mining Geology; • Geological Structures and Minerals	Quiz and assignments
ii. Rock and Mineral Identification	• Igneous, Sedimentary, Metamorphic Rocks; • Ore & Industrial Minerals; • Lab Practical's	Lab report, practical test
iii. Mineral Exploration Techniques	• Surface Mapping & Sampling; • Drilling & Core Logging; • Basic Resource Estimation	Field exercises, mini-report
iv. Mining Planning & Safety	• Mine Layout Planning; • Safety & Environmental Considerations	Case study, short report
v. Mining Geology Project	• Conducting Geological Survey; • Data Analysis & Reporting	Project report & presentation

3. Mineral Processing ENGINEERING

Module	Unit	Assessment
i. Introduction to Mineral Processing	• Fundamentals of Mineral Processing; • Overview of Industry	Quiz & assignments
ii. Comminution & Classification	• Crushing & Grinding Principles; • Screening & Classification; • Lab Exercises	Lab practical & report
iii. Concentration Techniques	• Gravity Separation; • Magnetic & Electrostatic Separation; • Flotation Principles	Practical exercises, mini-project
iv. Dewatering, Drying & Tailings Management	• Filtration & Centrifugation; • Drying Methods;	Report & presentation

	• Tailings Disposal & Environmental Impact	
v. Mineral Processing Project	• Small-Scale Processing Project; Analysis & Reporting	Project report & oral presentation

4. Mining Engineering

Module	Unit	Assessment
i. Introduction to Mining Engineering	• Overview of Mining Industry • Mining Methods (Surface & Underground)	Quiz, short assignment
ii. Mining Operations & Equipment	• Drilling, Blasting & Excavation; • Equipment & Maintenance; • Lab/Field Exercises	Practical tests, report
iii. Mine Planning & Surveying	• Mine Design & Layout; • Surveying Techniques; • Ore Reserve Estimation	Mini-project, report
iv. Mine Safety & Environmental Management	• Occupational Safety; • Environmental Management; • Risk Assessment	Case study, presentation
v. Mining Engineering Project	• Mining Operation Simulation; • Data Analysis & Reporting	Project report & oral defense