



Gravity and Magnetics for Explorationist

Course Introduction:

- Overview of gravity and magnetic methods in exploration.
- Objectives of the training program.
- Importance of gravity and magnetics in geophysical exploration.

Course Objectives:

Upon the successful completion of this course, each participant will be able to:-

- Understand the fundamental principles of gravity and magnetic fields.
- Learn about data acquisition techniques for gravity and magnetic surveys.
- Explore data processing and interpretation methods.
- Gain insights into practical applications in mineral and hydrocarbon exploration.
- Discuss case studies and best practices in using gravity and magnetic data.

Who Should Attend?

- Geologists and geophysicists
- Exploration geologists and project managers
- Data analysts and GIS specialists
- Industry professionals involved in resource exploration

Course Outline:

Day 1: Fundamentals of Gravity and Magnetism

- Introduction to gravitational and magnetic fields.
- Understanding the concepts of density and magnetization.
- Overview of the physics behind gravity and magnetic surveys.

Day 2: Data Acquisition Techniques

- Methods for conducting gravity surveys (e.g., ground-based, airborne).
- Techniques for magnetic data collection (e.g., ground, airborne, marine).
- Instrumentation used in gravity and magnetic surveys.

Day 3: Data Processing and Interpretation

- Overview of data processing techniques for gravity and magnetic data.
- Methods for filtering and enhancing data quality.
- Interpretation techniques: anomaly detection and modeling.

Day 4: Applications in Exploration

- Case studies on the use of gravity and magnetics in mineral exploration.
- Applications in hydrocarbon exploration and resource assessment.
- Discussion on integration with other geophysical methods.

Day 5: Best Practices and Future Trends

- Review of best practices in gravity and magnetic surveys.
- Discussion of emerging technologies and methodologies (e.g., machine learning).
- Group project: develop a survey plan using gravity and magnetic methods for a specific exploration target.

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

