



Rock Physics for Exploration

Course Introduction:

- Overview of rock physics and its significance in exploration.
- Objectives of the training program.
- The role of rock physics in understanding subsurface properties.

Course Objectives:

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

- Understand the fundamental principles of rock physics.
- Learn about the relationship between rock properties and geophysical measurements.
- Explore modeling techniques for predicting rock behavior.
- Gain insights into practical applications in oil, gas, and mineral exploration.
- Discuss case studies and best practices in rock physics.

Who Should Attend?

- Geophysicists and geologists
- Exploration engineers and project managers
- Data analysts in geoscience
- Industry professionals involved in resource exploration

Course Outline:

Day 1: Fundamentals of Rock Physics

- Introduction to rock physics concepts and terminology.
- Overview of rock properties: elasticity, density, porosity, and permeability.
- Relationship between physical properties and geophysical responses.

Day 2: Rock Physics Models

- Overview of effective medium theories and models.
- Techniques for modeling elastic properties of rocks.
- Introduction to seismic modeling and its applications.

Day 3: Data Acquisition and Analysis

- Methods for collecting rock property data (e.g., laboratory and field methods).
- Techniques for analyzing rock properties using geophysical data.
- Integration of rock physics with seismic and well log data.

Day 4: Applications in Exploration

- Case studies on the application of rock physics in oil and gas exploration.
- Use of rock physics in mineral exploration and reservoir characterization.
- Discussion of challenges and limitations in rock physics applications.

Day 5: Best Practices and Future Trends

- Review of best practices in rock physics for exploration.
- Discussion of emerging technologies and methodologies (e.g., machine learning).
- Group project: develop a rock physics model for a specific exploration scenario and present findings.

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

