PetroSkills

Principles of Geophysics - Virtual Short Course - Instructor-led + eLearning

COURSE

About the Course

This short course is a blend of self-paced online modules, virtual instructor-led lectures, problem assignments, virtual instructor-led problem debriefs with real-world application examples and knowledge sharing.

Over four days, this course includes approximately 4 hours of virtual, instructor-led training, plus 7 hours of e-Learning. See full schedule

This short course is designed to familiarize anyone using seismic data with the fundamentals of seismic data. One of the key goals is to explain the large and confusing amount of jargon that is used by the geophysical community when they use seismic data.

This short course is part of our Basic Geophysics (BGP) program.

See the full BGP Short Course listing here

Target Audience

Geoscientists, engineers, team leaders, geoscience technicians, asset managers, and anyone involved in using seismic data that needs to understand and use this data at a basic level or to communicate with others that use it.

You Will Learn

Participants will learn how to:

- Identify a seismic image
- Explain how a seismic image relates to geology
- Describe how a seismic image is formed
- Identify how a seismic image is displayed
- Differentiate between time and depth
- Describe the lithology and how it relates to the seismic image
- Relate the logs to the seismic data
- Identify the effect of pore filling material on velocity and density
- Identify why the vertical resolution of the seismic data is a critical issue

- Explain how the resolution is controlled by the propagating wavelet that is generated by the acquisition parameters
- Identify the recorded wavelet and its phase
- Describe the data display polarity and display conventions
- Understand:
  - The velocity family, the relationship between depth and time
  - Well velocities
  - Vertical seismic profiles (VSPs)
  - Overpressure and seismic velocities

Course Content

BLENDED LEARNING WORKSHOP STRUCTURE

This program is comprised of the following activities:

Activity	Hours (Approx)	Subjects
Day 1		
e-Learning	2.5	Seismic Displays in Time and Depth Lecture Reflections Stacked Traces Rays and Waves 3D Data Cube Exercise
Day 2		
Virtual Instructor-Led Session	2.0	Instructor Debrief / Problems
Day 3		
e-Learning	4.0	The Effects of Lithology Relating the Logs to the Seismic Data

		The Effect of Pore Filling Material on Velocity and Density Wavelet in the Seismic Data and Limits on Resolution Seismic Velocities Geophysical Fundamentals
e-Learning	0.3	*Optional - Overview of Seismic Attributes and Lateral Changes in Amplitude and Pattern Recognition Articles*
Day 4		
Virtual Instructor-Led Session	2.0	Instructor Debrief / Problems

Product Details

Categories: Upstream

Disciplines: Geophysics

Levels: Basic

Product Type: Course

Formats Available: Virtual

Instructors: Tom Temples