**OBJECTIVES**

> To enable participants to acquire knowledge of the conventional and advanced Geophysical Data Acquisition methodologies, with particular emphasis to seismic
> To allow students to learn Data Acquisition capabilities, limitations and impact on the processing phase, final quality and interpretability
> To allow students to understand, evaluate and plan a Data Acquisition project: case history and exercises will be proposed

**TARGET AUDIENCE**

The course is designed for Geophysicists directly involved in geophysical data acquisition, processing and interpretation; geophysicists and geologists working in exploration or production, interested in a better understanding and use of geophysical technology for data acquisition.

**CONTENTS**

The course adopts an interdisciplinary approach to data acquisition and covers the following topics:

> Fundamentals of Acquisition Geophysics: seismic wave-field propagation, P and S waves, reflection, refraction, diffraction, Sampling Theory, Nyquist Frequency, temporal and spatial aliasing, vertical and lateral resolution resolution, sample rate
> Seismic Acquisition parameters: Trace interval, Bin, Near and Far Offset Offset, fold of coverage, migration border, Azimuth and Offset Distribution, Lay Outs
> Multicomponent Seismic: theory and applications, examples
> Time lapse 3D (4D)
> Interdisciplinary project studies: Parameters selection, Acquisition Geometry Selection, processing problems, integration with advanced methodologies for G&G Studies.
> 2D and 3D Marine Surveys: Acquisition techniques, Marine Seismic sources, equipment, Acquisition Geometries, special activities (undershooting and infilling), Transitional and OBC acquisition techniques
> 2D and 3D Land Surveys: Acquisition techniques, Land Energy sources, equipment, Acquisition Geometries, special activities (undershooting, infilling, mixed source surveys)
> Transitional Surveys: Acquisition methodology, Transitional Energy sources, equipment, Acquisition Geometries, special activities
> Potential methods: fundamentals, Gravimetry, Magnetometry, FTG (Full Tensor Gradient) MT (magneto telluric)
> Well Site Survey: purpose, lay outs, equipments, examples

**DURATION**

5 days From 9 a.m. to 5 p.m.

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