

Fundamentals of Crude Measurement

2.5 Days

- **General introduction to crude oil :: From wellhead to refinery**
- **Production allocation: measurement at first point of separation**
 - Two-phase and three-phase separator measurement
 - Multi-phase measurement
- **Tanks**
 - Construction
 - Gauging
 - » Manual volume gauging
 - » Automatic volume gauging
 - » Temperature determination
 - » Overall function
 - » Examination of components
 - » Safety features
 - » Security
 - » Sampling systems
- **LACT units**
 - Temperature determination
 - Overall function
 - Examination of components
 - Safety features
 - Security
 - Sampling systems
 - » Setup
 - » Maintenance
- **LACT controllers, PLCs, and ticketing**
- **Physical properties**
 - Gravity determination
 - Water determination, managing the shake-out
 - H₂S hazards and safe work practices
- **Proving**
 - Mass
 - Volumetric
 - Meter factor
 - Witnessing
- **Asset balancing**
 - Calculations
 - Meeting API requirements
 - Balancing a gathering system
 - Balancing a pipeline
- **Maintaining an auditable process**