



DETAILED COURSE DESCRIPTIONS OF COURSE TOPICS

1. The structure of the industry - Topics include: hydrocarbon characteristics and uses; industry sectors; oil and gas companies; national oil companies; suppliers and contractors; worldwide reserves and production; LNG overview, and recent industry dynamics in the U.S.
2. Petroleum geology and exploration - Topics include: organic source; sediments and sedimentary rock; changes to the Earth's crust over geologic time; oil and gas formation, migration and traps; unconventional oil and gas; and exploration methods, tools and functions. This section is so visually illustrated that even geologists give it high marks.
3. Mineral rights and leasing - Topics include: minerals ownership; severability; rule of capture; common state regulations; leasing and other mineral interests; farmouts; joint operations; division orders and title opinions; complications with horizontal wells; federal onshore and offshore mineral rights; and common provisions in international mineral rights contracts.
4. Drilling and completion - Topics include: well planning; site preparation and rig mobilization; rig structure and functions; all phases of drilling a horizontal well; hydraulic fracturing; offshore rig types; and subsea drilling. The discussion is supported by custom video that provides a rig-floor view and animations that show corresponding downhole activities.
5. Development and production operations - Topics include: well evaluation; well completion; reservoir behavior; artificial lift; surface facilities; gas processing; depletion stages; offshore platform types; and reserves classification.