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Hydrocarbon Exploration and Production

This course is part of **Petroleum Engineering with AI Applications Specialization**

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4.7 ⭐
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Build your subject-matter expertise

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When you enroll in this course, you'll also be enrolled in this Specialization.

- Learn new concepts from industry experts

- Gain a foundational understanding of a subject or tool

There are 3 modules in this course

Hydrocarbon Exploration and Production is a comprehensive course that provides insight into the methods and techniques involved in the exploration, drilling and production of hydrocarbon resources. This course is designed to equip the learners with the necessary knowledge and skills to

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Exploration Methods, Upstream Equipment a…

Module 1 • 2 hours to complete

Module details ⌃

This module provides a fundamental understanding of the oil and gas industry, with a specific focus on exploration techniques and upstream operations. Learners will gain insight into the complete life cycle of oil and gas fields, starting from exploration to production. The module begins by introducing learners to the various exploration methods employed in the industry, highlighting their significance in identifying potential oil and gas reserves. Learners will delve into offshore seismic data acquisition and processing, learning how to interpret and analyze geological data to locate hydrocarbon reservoirs accurately. Furthermore, different types of reservoirs and their impact on production is covered. Learners will examine the characteristics of reservoirs and understand how these factors influence the extraction process. An in-depth study of upstream equipment and platforms is also included in this module. Learners will become familiar with the equipment used in upstream oil and gas production and gain a comprehensive understanding of subsea fabrication, installation and modular erection techniques. It also covers stimulation operations, water and other injection methods and compression systems. Moreover, this module provides an overview of both onshore production processes and offshore platforms. Learners will gain valuable insights into the operational aspects and challenges associated with these production environments.

What's included

▶ 15 videos   📋 1 assignment

Drilling Methods and Systems

advancements and challenges associated with it. This course covers various aspects of drilling operations, from the initial site preparation to the analysis of reservoir pressure transients. This module begins with an introduction to the oil and gas drilling process, providing learners with an overview of the key steps involved. Learners will understand about the servicing structures, hoisting systems, rotary equipment and downhole motors used in drilling operations. Site preparation and drilling techniques are explored in detail, including computer-based analysis and design methods. It delves into important components of drilling operations, such as wellhead, Christmas tree, single and dual completion, and casing and cementing. Learners will understand about their functions, types and properties, along with the testing, change in characteristics and additives used in drilling fluids. Drilling mud hydraulics and the treatment of drilling mud are also extensively covered. Furthermore, the course includes a comprehensive study of pressure transient analysis of reservoirs. Learners will gain insights into the behavior of reservoir fluids under changing pressures and learn how to interpret pressure data for reservoir characterization. It explores the latest technological advances and challenges in oil and gas drilling. Learners will be exposed to cutting-edge drilling technologies, such as directional drilling, automation, and real-time monitoring systems and gain an understanding of the associated challenges and opportunities.

What's included

▶ 11 videos   🗐 1 assignment

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★ **4.7** 61 reviews

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2 stars		0%
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KS

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PB

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It is very informative and concise course on Basic Knowledge of Petroleum industry.

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