

**Oil and Gas Energy**

# Fundamentals of Reservoir Engineering

Prepared as a professional course profile for delegate review, sponsorship approval and organisational training planning.

COURSE CODE

**MSD2696**

DELIVERY

**Online / Face-to-Face**

DURATION

**Flexible**

PREPARED FOR

**Organisation Approval**[Register for this Course](#)[View Online Course Page](#)

## Course Overview

Fundamentals of Reservoir Engineering provides a comprehensive overview of key reservoir engineering concepts. The course begins with an overview of fluid properties and their behaviour under changing conditions; this is followed by an overview of material balance calculations which rely on PVT data. The next concept is fluid flow in porous media, which introduces permeability and Darcy's Law. This leads on to a review of well testing and the analysis of pressure data, one of the main sources of permeability estimates. The next two topics cover what the reservoir engineer has to deliver – production forecasts and resource estimates. The final topic will be Enhanced Oil Recovery (EOR).

## Course Outcomes

- To provide a comprehensive overview of key reservoir engineering concepts
- To provide an overview of fluid properties and their behaviour under changing conditions
- To provide an overview of material balance calculations which rely on PVT data
- To understand the concept of fluid flow in porous media and permeability and Darcy's Law
- To review of well testing and the analysis of pressure data, one of the main sources of permeability estimates
- To understand what the reservoir engineer has to deliver – production forecasts and resource estimates
- To gain an understanding of Enhanced Oil Recovery (EOR)
- To understand the nomenclature and terminology used in the industry



## Course Outline / Curriculum

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### Fluid properties

- PVT measurements
- Phase behaviour
- Fluid types
- Material balance

### Fluid flow in porous media

- Permeability and Darcy's law
- Fluid viscosity
- Sources of permeability data

### Two phase flow

- Capillary pressure
- Relative permeability data
- Well testing
- Well test operations
- Transient flow / semi-steady state flow
- Semi log plots
- Radius of investigation
- Skin - formation damage

### Production forecasting

- Recovery mechanisms
- Recovery factors
- Reservoir simulation
- Integrated production modelling

### Resource categories

- Petroleum Resource Management System (PRMS)
- Contingent resources
- Proved and probable reserves

### EOR

- Chemical flooding
- Thermal flooding
- Miscible gas flooding
- Immiscible gas flooding

## Target Audience

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- Professionals who work in collaboration with reservoir engineers
- Exploration geoscientists
- Petrophysicists
- Well engineers
- Process engineers
- Chemical engineers
- Facilities engineers
- Economists
- Commercial personnel

## Key Course Benefits

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### Work-Ready Skills

Delegates leave with practical tools, templates and methods they can apply immediately at work.

### Better Institutional Results

The programme supports stronger planning, reporting, compliance, accountability and service delivery.

### Sponsor-Friendly

This document is designed to help supervisors, HR units and sponsors approve delegate participation quickly.

### Professional Recognition

Delegates receive training documentation and a certificate of completion after successful participation.

## Our Training Centres & Delivery Options

Magna Skills offers flexible delivery through face-to-face training centres across Africa and beyond, plus Online / E-Learning for delegates who prefer remote participation.

### Southern Africa

Practical training destinations with strong travel access and delegate support.

Pretoria, South Africa

Vic Falls, Zimbabwe

Livingstone, Zambia

### East Africa

Popular regional centres for government, NGO and donor-funded project teams.

Kigali, Rwanda

Kampala, Uganda

Nairobi,

Zanzibar, Tanzania

### West Africa & Islands

Strategic locations for regional networking and executive capacity building.

Accra, Ghana

Port Louis, Mauritius

### International Executive Venue

Premium destination training for senior teams and international delegates.

Dubai, United Arab Emirates

### Online / E-Learning

Attend from anywhere through live online, blended or self-paced learning options.

Online, E-Learning

Remote Teams

Flex

### Organisation-Based Training

Magna Skills can also arrange dedicated in-house training for ministries, NGOs and companies.

Onsite

Custom Dates

Group Training

## Ready to Nominate Delegates?

Use the links below to register, review the live course page or contact Magna Skills for organisation-based training support.

[Register / Apply Online](#)

[View Full Course Page](#)

## About Magna Skills

Magna Skills Development Institute provides practical capacity building programmes for government departments, NGOs, public institutions, donor-funded projects and private sector professionals across Africa. Our training approach combines expert facilitation, real workplace case studies, practical tools, post-training support and professional documentation that helps organisations strengthen staff performance and service delivery.

Government Training

NGO Capacity Building

Corporate Workshops

Online Learning

Face-to-Face Training

Certifica

## Approval & Authorisation Form

This section may be completed by the organisation, department, HR office, finance office or sponsor approving delegate participation. It can be attached to an internal memo, procurement request or training approval submission.

<b>Organisation / Department</b>	
<b>Delegate Name(s)</b>	
<b>Approved Course</b>	Fundamentals of Reservoir Engineering
<b>Preferred Delivery Mode</b>	<input type="checkbox"/> Online <input type="checkbox"/> Face-to-Face <input type="checkbox"/> Organisation-Based Training
<b>Preferred Training Venue / Date</b>	
<b>Estimated Number of Delegates</b>	
<b>Budget / Vote Number</b>	
<b>Contact Person</b>	
<b>Email / Mobile</b>	

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Authorised Name

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Signature / Stamp

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Date