Training Course on Augmented and Virtual Reality for Oil and Gas Training and Operations

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The energy sector is undergoing a digital revolution, and at the forefront of this transformation are immersive technologies like Augmented Reality (AR) and Virtual Reality (VR). These technologies are not just futuristic innovations; they are present-day tools enhancing workforce training, safety, and operational efficiency in the Oil & Gas (O&G) industry. With increasing global demand for energy, O&G companies must adopt AR/VR solutions to remain competitive, ensure employee safety, and optimize asset performance. Training Course on Augmented & Virtual Reality (AR/VR) for Oil & Gas (O&G) Training & Operations is strategically designed to help professionals and organizations harness the full potential of immersive technologies to drive operational excellence.

This specialized training program empowers participants to implement AR/VR technologies for real-world industrial challenges—from simulating hazardous environments to remote collaboration and predictive maintenance. By integrating trending digital innovations such as digital twins, real-time analytics, and mixed-reality field operations, this course prepares stakeholders to embrace Industry 4.0 advancements. Through interactive modules and practical case studies, learners will develop actionable knowledge that can be directly applied in upstream, midstream, and downstream operations.

Programme Curriculum

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and operational efficiency in the Oil & Gas (O&G) industry. With increasing global demand for energy, O&G companies must adopt AR/VR solutions to remain competitive, ensure employee safety, and optimize asset performance. Training Course on Augmented and Virtual Reality for Oil and Gas Training and Operations is strategically designed to help professionals and organizations harness the full potential of immersive technologies to drive operational excellence.

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Course Objectives

1. Understand the fundamentals of AR and VR in Oil & Gas environments.
2. Analyze industry-specific applications of immersive technologies.
3. Implement VR safety training simulations for hazardous operations.
4. Utilize AR-enabled remote assistance for field troubleshooting.
5. Explore Digital Twin integration with AR/VR systems.
6. Learn how AI and real-time data enhance immersive environments.
7. Evaluate ROI and KPIs for AR/VR implementations.
8. Design customized AR/VR learning modules for oilfield personnel.
9. Apply virtual walkthroughs for facility planning and inspection.
10. Enhance collaborative engineering and maintenance using XR.
11. Discover cloud-based AR/VR content deployment methods.
12. Develop AR/VR policy frameworks for O&G compliance.
13. Prepare future-ready teams for digital transformation in energy.

Target Audience

1. O&G Health and Safety Officers
2. Digital Transformation Managers
3. Operations and Maintenance Engineers
4. Field Service Technicians
5. O&G Learning & Development Professionals
6. Process and Pipeline Engineers
7. Offshore Platform Supervisors
8. AR/VR Developers targeting the Energy Sector

Course Duration: 5 days

Course Modules

Module 1: Introduction to AR/VR in Oil & Gas

- Definition and scope of AR and VR
- Differences between AR, VR, MR, and XR
- Industry 4.0 and immersive tech
- Benefits and risks in energy environments
- Overview of hardware and software
- **Case Study:** Shell’s VR-based refinery walkthrough

Module 2: Immersive Safety Training

- Simulated hazardous scenarios
- Emergency response training
- Fire, explosion, and leak simulations
- Risk mitigation via virtual practice
- Psychological benefits of VR safety training
- **Case Study:** BP's VR fire drill program

Module 3: AR for Remote Field Support

- Real-time technician support
- Hands-free AR for offshore sites
- Remote diagnostics and repair
- AR smart glasses in the field
- Enhancing workforce agility
- **Case Study:** Chevron's AR for offshore troubleshooting

Module 4: Equipment Maintenance & Inspection

- Digital overlay for equipment manuals
- Predictive maintenance via AR
- Inspection in confined/hazardous spaces
- 3D asset tagging with AR
- Workflow optimization
- **Case Study:** ExxonMobil’s AR-based turbine inspection

Module 5: Virtual Drilling Simulators

- Drilling well simulation
- Operator competency assessment
- Gamification in skill development
- Multi-scenario learning
- Drilling failure prevention training
- **Case Study:** Schlumberger’s VR drilling simulator

Module 6: Digital Twins + AR/VR

- What is a digital twin?

- Syncing real-time data with 3D environments
- Predictive operations and planning
- Virtual prototyping
- Performance monitoring
- **Case Study:** Equinor’s Digital Twin implementation in North Sea

Module 7: Emergency Preparedness & Disaster Response

- Crisis simulation drills
- Virtual evacuation protocols
- AR for field visibility in chaos
- Scenario-based decision making
- Post-crisis evaluation via VR
- **Case Study:** TotalEnergies’ emergency VR lab

Module 8: Process Training for Refinery Operations

- Simulating distillation and cracking
- Process flow understanding
- Safe shutdown/start-up training
- Virtual troubleshooting
- Enhancing process operator accuracy
- **Case Study:** Valero’s virtual refinery control room

Module 9: Environmental Compliance & Monitoring

- AR overlays of environmental data
- Virtual emission tracking
- Hazardous waste training
- Spill prevention simulations
- ESG and sustainability training
- **Case Study:** AR for pipeline leak detection by Enbridge

Module 10: Upstream Exploration Training

- Geological layer simulation
- Virtual seismic survey interpretation
- Drill site selection
- Equipment placement simulations
- Efficiency in exploration logistics
- **Case Study:** ConocoPhillips' immersive geology module

Module 11: Midstream Asset Management

- Virtual monitoring of pipelines
- Predictive flow analysis
- AR-guided repair planning

- Compliance simulations
- Security training via immersive tools
- **Case Study:** TransCanada’s virtual asset map training

Module 12: Downstream Logistics and Distribution

- Simulation of supply chain movement
- AR for warehouse layout
- Fleet tracking and distribution
- Safety training for drivers
- Inventory simulation modules
- **Case Study:** VR for ExxonMobil's fuel terminal operations

Module 13: Project Management with AR/VR

- 3D Gantt and timeline visualization
- Virtual walkthroughs of project sites
- Team collaboration in virtual space
- Error-proofing design decisions
- Change management via simulations
- **Case Study:** Fluor Corporation’s AR-assisted project execution

Module 14: Building Custom AR/VR Modules

- Instructional design strategies
- Content authoring platforms
- User experience design
- Coding basics for AR/VR
- Deployment and testing techniques
- **Case Study:** L&D team at Halliburton creating VR safety onboarding

Module 15: Measuring AR/VR Effectiveness

- Training ROI frameworks
- Metrics for skill retention
- Usage analytics and feedback loops
- Post-training assessments
- Continuous improvement systems
- **Case Study:** KPI evaluation of immersive training at Petronas

Training Methodology

- Interactive hands-on simulations using headsets and AR devices
- Instructor-led workshops with live demonstrations
- Group-based scenario exercises to promote team learning
- Real-time case study walkthroughs and debriefs
- Access to a cloud-based AR/VR training sandbox

- Post-training knowledge assessment and certification

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com