Training Course on LNG Production, Storage and Transportation

Professional Development Training Course Outline

Category	Oil and Gas	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The global demand for cleaner and more efficient energy sources has elevated Liquefied Natural Gas (LNG) as a key component in the transition toward sustainable energy. Training Course on LNG Production, Storage & Transportation equips professionals with the technical know-how, operational skills, and regulatory understanding necessary to excel in the growing LNG infrastructure and supply chain sector. With increasing investments in LNG terminals, floating storage regasification units (FSRUs), and cryogenic technologies, this course is vital for those aiming to lead in the LNG value chain.

Covering cryogenic processes, LNG liquefaction, loading/offloading techniques, risk management, and transport logistics, this course merges theory with practical case studies to ensure high-impact learning. By the end, participants will be proficient in the end-to-end lifecycle of LNG, including production optimization, environmental compliance, and global LNG market trends.

Programme Curriculum

Training Course on LNG Production, Storage & Transportation

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Course Objectives

1. Understand the LNG value chain from exploration to end-user delivery.
2. Analyze LNG liquefaction technologies and their operational efficiencies.
3. Master cryogenic safety standards and hazard identification in LNG handling.
4. Explore modern LNG storage tank designs and containment systems.
5. Evaluate the role of FSRUs and FLNG units in global LNG trade.
6. Learn LNG terminal operations including loading/unloading and regasification.
7. Interpret regulatory frameworks and international LNG transport laws.
8. Optimize LNG shipping logistics and vessel scheduling strategies.
9. Identify emissions control techniques and decarbonization efforts in LNG.
10. Apply data analytics and digital twins in LNG asset management.
11. Assess project economics, feasibility, and cost structures in LNG investments.
12. Navigate global LNG markets, pricing structures, and trade agreements.
13. Conduct comprehensive risk assessments for LNG production and transport.

Target Audiences

1. LNG Plant Operators
2. Mechanical & Process Engineers
3. Energy Project Managers
4. Marine & Shipping Professionals
5. Environmental Compliance Officers
6. Safety and Risk Engineers
7. Policy Makers and Regulatory Bodies
8. Oil & Gas Investors and Analysts

Course Duration: 5 days

Course Modules

Module 1: Fundamentals of LNG and the Global Market

- LNG origin, composition, and value chain
- LNG vs other fossil fuels – comparative efficiency
- Major global LNG producers and consumers
- Trends in LNG demand and supply dynamics
- Global LNG pricing and contracts (SPAs, spot)
- **Case Study**: Qatar’s LNG leadership and export strategy

Module 2: LNG Production and Liquefaction Technologies

- LNG liquefaction processes (C3MR, SMR, DMR)
- Heat exchange and cryogenic principles
- Process simulation and plant optimization
- Automation and control systems in liquefaction
- Environmental impact and emissions reduction
- **Case Study**: Prelude FLNG – World’s first floating liquefaction facility

Module 3: LNG Storage Design and Maintenance

- Types of LNG storage tanks (full containment, membrane)

- Cryogenic insulation systems and boil-off gas control
- Maintenance strategies and tank integrity inspections
- LNG tank construction standards and codes (API 625, NFPA 59A)
- Safety systems: ESD, fire suppression, pressure relief
- **Case Study**: Incheon Terminal – Innovations in containment

Module 4: LNG Transportation and Marine Logistics

- LNG carriers: Moss-type vs membrane-type
- Loading/unloading operations and compatibility
- Boil-off gas management on board
- Routing, weather, and risk factors in marine transport
- LNG bunkering and dual-fuel propulsion
- **Case Study**: Arctic LNG 2 – Ice-class LNG carrier logistics

Module 5: Safety, Risk & Emergency Response

- Hazard analysis: HAZOP, HAZID, QRA
- LNG spill scenarios and fire risk modeling
- Personal protective equipment (PPE) and safe practices
- Emergency response planning and drills
- Regulatory compliance: OSHA, IMO, ISO
- **Case Study**: Skikda LNG Explosion – Lessons in hazard control

Module 6: LNG Regasification and Terminal Operations

- Onshore vs offshore regasification (FSRU technology)
- Heat exchange systems (ORV, SCV) and energy recovery
- Storage to pipeline integration
- Measurement and metering for custody transfer
- LNG blending and quality control
- **Case Study**: Gate Terminal Rotterdam – Operational efficiency

Module 7: Digitalization and AI in LNG Operations

- Smart sensors and real-time data acquisition
- AI for predictive maintenance in LNG assets
- Digital twins and process simulation
- SCADA systems in LNG facilities
- Cybersecurity for LNG infrastructure
- **Case Study**: Petronas Digital Strategy for LNG optimization

Module 8: Future of LNG – Sustainability and Market Evolution

- LNG’s role in the energy transition
- Hydrogen integration and LNG
- Carbon capture and storage in LNG plants
- E-fuels and renewable LNG pathways
- Policy trends and ESG reporting
- **Case Study**: Japan’s strategy for green LNG procurement

Training Methodology

- Instructor-led interactive lectures
- Real-world case study analysis
- Simulation-based learning and digital models

- Group discussions and breakout workshops
- Post-course 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	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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

Register Online Now

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