Training Course on Fundamentals of Liquefied Natural Gas (LNG)

Professional Development Training Course Outline

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

Course Introduction

Liquefied Natural Gas (LNG) plays a pivotal role in the global energy landscape, offering a cleaner, more efficient alternative to traditional fossil fuels. As demand surges for environmentally responsible and cost-effective energy sources, the LNG industry is experiencing unprecedented growth. Training course on the *Fundamentals of LNG* provides a comprehensive understanding of the LNG value chain—from extraction, liquefaction, transportation, storage, and regasification to its final delivery to end-users. Whether you're a professional in energy, engineering, logistics, or policy-making, this course equips you with the technical expertise and strategic insights necessary for navigating the evolving LNG market.

With modules designed around real-world scenarios, market trends, and operational excellence, this course delivers hands-on learning through data-driven case studies and industry-specific examples. Participants will gain skills in LNG economics, infrastructure planning, safety protocols, regulatory compliance, and sustainable practices. Join the global conversation on clean energy transition and empower yourself with industry-ready LNG skills to future-proof your career.

Programme Curriculum

Training Course on Fundamentals of LNG

Introduction

Liquefied Natural Gas (LNG) plays a pivotal role in the global energy landscape, offering a cleaner, more efficient alternative to traditional fossil fuels. As demand surges for environmentally responsible and cost-effective energy sources, the LNG industry is experiencing unprecedented growth. Training course on the *Fundamentals of LNG* provides a comprehensive understanding of the LNG value chain—from extraction, liquefaction, transportation, storage, and regasification to its final delivery to end-users. Whether you're a professional in energy, engineering, logistics, or policy-making, this course equips you with the technical expertise and strategic insights necessary for navigating the evolving LNG market.

With modules designed around real-world scenarios, market trends, and operational excellence, this course delivers hands-on learning through data-driven case studies and industry-specific examples. Participants will gain skills in LNG economics, infrastructure planning, safety protocols, regulatory compliance, and sustainable practices. Join the global conversation on clean energy transition and empower yourself with industry-ready LNG skills to future-proof your career.

Course Objectives

1. Understand the LNG value chain from production to end-use.
2. Analyze global LNG market trends and demand-supply dynamics.
3. Identify key LNG infrastructure components and functions.
4. Assess LNG safety standards, hazard mitigation, and risk assessments.
5. Evaluate LNG liquefaction technologies and cooling processes.
6. Explore transportation and shipping of LNG via cryogenic tankers.
7. Learn regasification terminal operations and storage mechanisms.
8. Understand the impact of carbon footprint reduction via LNG.
9. Gain insights into LNG economics and investment strategies.
10. Interpret regulatory frameworks and environmental compliance issues.
11. Explore emerging LNG technologies and digital transformation.
12. Build skills in project planning and supply chain management for LNG.
13. Apply learnings through real-world LNG case studies and project simulations.

Target Audience

1. Energy industry professionals
2. Mechanical and chemical engineers
3. Environmental consultants
4. Marine and logistics coordinators
5. Infrastructure project managers
6. Government and regulatory personnel
7. Finance and investment analysts in energy markets
8. Academic researchers and students in energy disciplines

Course Duration: 5 days

Course Modules

Module 1: Introduction to LNG and the Global Energy Market

- LNG basics: composition, benefits, and applications
- Historical evolution of LNG markets
- Current and future demand in global regions
- Key LNG-producing and importing countries
- Economic and environmental significance of LNG
- **Case Study:** Growth of LNG in Asian energy markets

Module 2: LNG Value Chain and Supply Chain Optimization

- Upstream to downstream overview
- Exploration and production integration
- LNG liquefaction plant operations
- Storage and transportation logistics
- Distribution to end-users
- **Case Study:** Qatar’s integrated LNG value chain

Module 3: LNG Liquefaction Technologies and Process Design

- Fundamentals of liquefaction
- Cryogenic cooling cycles (APCI, Mixed Refrigerant, etc.)
- Plant design and configuration
- Equipment and instrumentation essentials
- Efficiency and reliability metrics
- **Case Study:** Shell's Prelude FLNG project

Module 4: Transportation and Shipping of LNG

- LNG carrier types and specifications
- Cryogenic containment systems
- Shipping routes and global logistics
- Maritime safety regulations
- Fleet optimization and tracking
- **Case Study:** LNG shipping disruptions during the Russia-Ukraine crisis

Module 5: Storage, Handling, and Regasification

- Types of LNG storage tanks
- Safety protocols for cryogenic liquids
- Regasification techniques
- Terminal design and management
- Inventory control and boil-off gas handling
- **Case Study:** Dahej LNG Terminal, India

Module 6: LNG Safety, Risk Management, and Environmental Compliance

- Hazard identification and mitigation
- Safety standards (NFPA 59A, ISO 16903)
- Emergency response planning
- Risk assessment tools
- Environmental impact and emission control
- **Case Study:** LNG spill simulation and emergency response analysis

Module 7: LNG Market Dynamics and Commercial Structures

- Global pricing mechanisms (Henry Hub, JKM, Brent linkage)
- Long-term vs. spot contracts
- Trading hubs and indexes
- Supply-demand modeling
- Impact of geopolitics and sanctions
- **Case Study:** U.S. LNG exports and European energy security

Module 8: Innovations, Trends, and Future of LNG

- Small-scale and modular LNG systems
- Digital twins and automation in LNG
- Hydrogen and LNG synergy
- Carbon-neutral LNG initiatives
- LNG in transportation (marine, heavy-duty vehicles)
- **Case Study:** LNG bunkering infrastructure in Rotterdam Port

Training Methodology

- Interactive live and recorded sessions with energy industry experts
- Group activities and discussions for real-world problem-solving

- Access to digital learning tools and LNG process simulators
- Case study analysis and role-play exercises
- Quizzes and assignments for concept reinforcement
- Certification upon successful course completion

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

Start Date	End Date	Location	Price
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