Post-Baccalaureate Certificate
In
LNG Engineering

Curriculum → 5 courses, 3 credit hours each, 15 hours total

- **Fundamentals of LNG Processing** → Overview of the LNG Industry, field operations, compression, gas treating, gas dehydration, heavy hydrocarbon recovery, liquefaction, refrigeration, loading, boil off gas, transportation and regasification.

- **Pipeline Design, Storage and Transportation of LNG** → Introduction to hydraulics (pumps, fluid flow, pressure loss, etc.), pipeline design and construction, standards and codes. Design and operation of LNG cryogenic storage tanks (onshore and floating), LNG transportation by ships and trucks (containment systems), loading and unloading procedures, boil-off gas management, and the associated safety measures, ASME pressure vessel code, boiler and other fired heaters, gas turbines.

- **LNG Regulations and Hazard Management** → Introduction to relevant industry standards and regulations, such as 49 CFR Part 193 by PHMSA (Pipeline and Hazardous Materials Safety Administration) and FERC (Federal Energy Regulatory Commission), IMO (International Maritime Organization), hazards associated with LNG (flammability, cryogenic burns, etc.), LNG facility safety systems, procedures, standards, regulations (NFPA 59A, ISO 16903, ISO 28460, etc.), emergency response and firefighting protocols, risk assessment.

- **LNG Supply Chain Management** → Introduction to the different stages of the LNG supply chain from production (wellhead) to delivery (market).

- **LNG Environmental and Regulatory Aspects** → Introduction to environmental impacts, noise, emission, mitigation measures, key regulations and standards by region, environmental review and permitting, future trends and evolving standards.

Delivery Method → Flexible, asynchronous, online, self-paced

- Each traditional 3-credit hour course will be divided into 3 one credit hour sessions
- Each 1-credit hour session will be independent and offered for 4 weeks
- Participants will have 10 opportunities in one calendar year to enroll, and complete a session
- Enrollment in 1-credit hour sessions does not have to be consecutive

Target Audience → Working professionals

- Engineering degree holders (1 – 7 years LNG Experience)
- Engineering degree holders looking for advancement
- STEM degree holders with experience in the field

Projected Initial Offering → Fall semester 2026 (one, possibly two courses)

Current Situation on Obtaining LNG Talent

- There is no formal education in LNG Engineering
- New LNG hires come from:
  - Other LNG companies (people with experienced)
  - Other related companies (people with no LNG experience)
  - University programs (new graduates with no LNG experience)
- Acquire LNG knowledge while on the job
- Opportunities to attend expensive LNG courses offered by private companies

LNG Center of Excellence at McNeese State University

"HoT" Unit — **Hands on Trainer**

Small-scale, operational LNG unit on site to serve as the key training tool for McNeese State University students and industry trainees

Control Room — **Operations Hub**

Looking out towards the HoT unit, operators in the Control Room monitor and manage all systems, processes and equipment on the HoT unit.

Simulation Lab — **Virtual Rality**

A multipurpose space for training using virtual reality to follow all processes of the HoT unit and provide workforce training.

FOR INFORMATION CONTACT

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