



Technical University
of Leoben

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DEPARTMENT
GEO ENERGY

Pipeline Engineering Programme

Module MC05: General Aspects of Station and Terminal Design and Equipment



Key Facts

- ✓ **Duration:** 2 weeks
- ✓ **Format:** In-person & online (Leoben, Austria)
- ✓ **Language:** English
- ✓ **Certificate:** Micro-Credential (ECTS transferable)
- ✓ **Prerequisites:** Technical background in fluid mechanics or engineering recommended; none required

Key Learning Outcomes

1. Describe the functions of stations and terminals in pipeline systems.
2. Interpret layout principles considering process flow, safety and site conditions.
3. Select appropriate rotating equipment for operational requirements.
4. Evaluate auxiliary equipment including valves, filters and instrumentation.
5. Apply industry standards and regulatory requirements in design.
6. Understand the integration of key engineering disciplines.
7. Analyse system factors affecting efficiency, safety and maintainability.

Instructors



Tim Callan
Managing Director
PipeSystemConsult GmbH

With 40 years of global engineering and project experience, Tim Callan has supported major industrial, energy and pipeline projects worldwide. Since 2008, he has delivered specialised HAZID, HAZOP, SIL, LOPA and QRA services for more than 200 projects and 70 clients.



Günther Hörlesberger
ILF Group

Mr. Günther Hörlesberger has extensive experience in design, project engineering, project management, and leadership in Austria and internationally, and has been a lecturer in Austrian mechanical engineering education since 1978. He specializes in the design, testing, commissioning, and maintenance of machinery, energy systems, and pipeline systems.

Module Overview

This module introduces the principles of station and terminal design in pipeline systems, with a focus on equipment selection and system integration. It covers the roles of pumping, compressor and metering stations, along with layout planning, process flow, safety requirements and regulatory standards. Participants learn key selection criteria for pumps, compressors, drivers and other essential equipment such as valves, filters and instrumentation. Through practical examples, the module builds understanding of the technical and operational aspects of station and terminal design within pipeline infrastructure.

Course Outline

1. **Stations and Terminals:** Roles of pumping, compressor, metering and storage facilities in pipeline systems.
2. **Layout Planning:** Process flow design, plot plans, safety zones and site integration.
3. **Rotating Equipment:** Selection of pumps, compressors and drivers based on performance and reliability.
4. **Auxiliary Equipment:** Valves, pressure control devices, filters and basic instrumentation.
5. **Safety and Compliance:** Key standards, safety systems, regulatory requirements and commissioning needs.
6. **Integration:** Coordination of disciplines, constructability, operability and practical design considerations.