

Dette er en oversettelse av den fastsatte læreplanteksten. Læreplanen er fastsatt på Bokmål

Laid down as a regulation by the Norwegian Directorate for Education and Training on 14 December 2007 as delegated in a letter of 26 September 2005 from the Ministry of Education and Research pursuant to the Act of 17 July 1998 no. 61 relating to primary and secondary education (Education Act) Section 3-4 first paragraph.

Valid from 01.08.2008

Purpose

Chemical processing shall lay the foundation for practicing an occupation in controlling and monitoring production in the processing industry and for purifying drinking water, sewage water and industrial water. The chemical process industry is central in work with extracting, caring for and further processing natural resources. The subject shall contribute to sustainable extraction and utilisation of nature's goods and contribute to reducing hazardous emissions.

Learning in the subject shall help develop the apprentice's competence in processing and production methods. Furthermore, learning in the subject shall contribute to the individual's development of an understanding of the relationship between production, environmental issues, economy and quality. Learning in the subject shall also promote communication skills and the ability to solve problems.

Learning in the subject shall arrange for varied training in the ability to assess and analyse processes, control settings and monitoring of process variables. Furthermore, the subject shall help the apprentice learn to work independently and cooperate across professional groups. Learning in the subject shall also promote respect, tolerance and equality. Working according to procedures, standards and requirements established for environment, health and safety are central themes in learning.

Training completed and passed in the subject will lead to a Trade Certificate. The professional title is Chemical Process Industry Technician.

Structure

Chemical processing consists of three main subject areas. The main subject areas complement each other, and should be viewed in relation to one another.

Overview of the main subject areas:

Year level	Main subject areas		
Vg3 / In-service training at a training establishment	Production and maintenance	Product and product flow	Documentation and quality

Main subject areas

The main subject area covers the use of processing equipment and processing data in operational and emergency situations. Interaction with colleagues and other professional groups is also included in the main subject area. Furthermore, the subject covers maintenance of processing plants and equipment and how to prepare for working with the system. Working according to current rules and regulations is a central theme of the subject.

The main subject area covers production flow from raw materials to finished product. Furthermore, the subject covers the how the business organises its value creation. Results from assessments and reports are included in the main subject area. Environment, health and safety are central themes of this subject.

The main subject area covers calculations and the use of drawings, images, schedules, instructions, procedures and standards. The main subject area also includes discussion skills. Furthermore, the subject covers registration procedures and non-conformance reporting.

Basic skills

Basic skills are integrated into the competence aims for this course in areas where they contribute to the development of and are a part of the basic subject competence. In Chemical processing, basic skills are understood as follows:

Being able to express oneself orally and in writing in Chemical processing involves describing work tasks. It also involves risk assessment and preparing non-conformance reports. It also deals with communicating with colleagues and other collaborators regarding questions related to the profession.

Being able to read in Chemical processing involves understanding and following work descriptions, instruction manuals, procedures and standards.

Numeracy in Chemical processing involves calculating pressure, temperature, mixture proportions and other processing parameters. It also involves adjusting and regulating the processing plant, taking measurements and completing registrations according to drawings, schedules and standards for product quality.

Digital literacy in Chemical processing involves using digital tools to search for information, communication, coordination activities and planning of work tasks. Furthermore, it involves the use of digital control and monitoring systems.

Competence aims

Production and maintenance

The aims of the training are to enable the apprentice to

- plan, execute and assess work in line with instructions, procedures and existing regulations
- use technical flow charts
- give an account of operational aspects of the unit and appurtenant processing equipment
- start, operate and stop production units and processes
- optimise production with help from measurements and analyses
- monitor, analyse and troubleshoot with help from tools, equipment and own judgement
- solve operational and maintenance tasks with an interdisciplinary team
- prepare the processing equipment for maintenance
- carry out systematic preventive maintenance on the equipment
- prepare the processing equipment for start-up
- follow run-down and emergency stop procedures
- use measuring, controlling and regulating equipment, and give an account of how these work
- use control and monitoring systems
- implement measures according to warnings and emergency procedures

Product and product flow

The aims of the training are to enable the apprentice to

- use data sheets and documentation based on routines for environment, health and safety and quality control
- give an account of the company's value chain from raw material to product
- discuss and elaborate on factors that influence profitability of production
- give an account of what happens chemically, biologically and physically during unit operation and processes

- give an account of the company's organisation, distinctive characteristics and role in a local, national and international context
- perform operational analyses and evaluate the analyses against the specifications

Documentation and quality

The aims of the training are to enable the apprentice to

- use drawings, schedules, images, instructions, procedures and standards at work
- report using oral and written skills in Norwegian and English using digital tools
- register and report on deviations
- document work according to instructions, procedures and existing regulations
- give an account of the company's affect on the environment and the consequences this has for operations and deviations
- perform work according to ethical guidelines for the trade
- discuss and elaborate on problem-solving and optimising production in Norwegian and English with colleagues and other professional groups

Assessment

Vg3 Chemical processing

Provisions for final assessment:

Main subject areas	Provision
Production and maintenance	All apprentices shall sit for a Trade Examination, which is normally carried out over a period of three working days.
Product and product flow	
Documentation and quality	

The provisions for assessment are stipulated in the regulations of the Norwegian Education Act.