

STRUCTURE OF THE PROGRAMME

The programme takes two years (120 ECTS) and is divided into four phases:

Phase A: Broadening of basic knowledge	11 - 22	ECTS
Phase B: Deepening of appropriate specialistic knowledge	17 - 28	ECTS
	(Phase A and B together	39 ECTS)
Phase C: Group design project of processes and/or equipment	21	ECTS
Phase D: Individual design project	60	ECTS

Phase A, B and C, are part of the first year, the individual design project (D) is carried out in the second year.

PHASE A

Phase A is intended to give all participants a solid enough basis to function as a process engineer and to be able to cope with the more advanced design courses. The courses in this phase are divided in six areas:

- Applied economics and social sciences
- Communication and reporting
- Applied mathematics, modeling and computing
- Fundamentals of transport phenomena
- Chemical thermodynamics
- Chemistry and bio sciences

Subjects must be chosen from at least four of the six given areas and at least one topic must be chosen from the areas Applied economics and social sciences and Communication and reporting. The choice of the subjects depends on the prior training and interest. Within the different areas four subjects are compulsory. These subjects must be finished, either during the prior training or in the broadening part.

These subjects are:

- Introduction economics and costing
- Numerical methods in chemical engineering
- Physical technology
- Thermodynamics for process engineers

Depending on the participant's choice 11 - 17 ECTS are spent in phase A. The subjects must preferably be completed before starting the other phases. Subjects dealt with during prior training give dispensation. At least 6 ECTS must be spent on broadening the knowledge.

PHASE B

During phase B a number of subjects are studied on a more advanced level. The courses are offered by Delft University of Technology as well as by others. The participants must choose courses from the following areas:

- Conversion technology and reactor engineering
- Separation technology
- Process analysis, design and simulation
- Applied process technology
- Equipment design and process engineering
- Process dynamics and control

In order to make sure that the programme is broad enough courses must be taken from at least four areas, among them Process analysis, design and simulation.

PHASE C

During Phase C a small team (with a maximum of 8 participants) carries out an industrial design assignment. The staff selects assignments for the group project that have a high educational value and provide a broad exposure to industrial technology. Each project is carried out with an industrial partner who benefits from the results obtained during the project. Supervision is provided by staff members of the course and an experienced process engineer/designer from the industrial partner.

The project requires 21 ECTS work-equivalent from each participant and is carried out on part-time bases during 25 weeks of the first year. The time, which is not spent on the design project during this period (14 ECTS), is used for phase B courses.

PHASE D

This phase, covering almost all of the second year, consists of an individual project aimed at a design, supported by (experimental) development work. The project is generally carried out at an industrial site under supervision of a team consisting of plant personnel from the host company and staff members from the university. The team provides guidance and regular progress reviews. The participants of the course receive a high degree of individual instruction and evaluation. The project is concluded with a report and a lecture.

The work amounts to 60 ECTS; of which at least 40% are spent on the design part.

The course Process and Equipment Design has two (internal) variants:

- a) The broad, "process engineering" variant, accredited by the Graduate School on Process Technology (OSPT).
- b) The more specialized "catalytic designer" variant, accredited by the Dutch Institute for Catalysis Research (NIOK, Nederlands Instituut voor Onderzoek van Katalyse).

The main division of the programme applies to both variants. The difference is found in the choice of subjects in phase B and in the subject of the individual assignment (phase D). In the table below a general outline of the two-year training is shown.

1st year = 60 ECTS	
PHASE A broadening subjects 11 - 22 ECTS	PHASE B deepening subjects 25 weeks a 16 hours per week = 400 hours 17 - 28 ECTS
PHASE C Group Design Project 21 ECTSs	
2nd year 60 ECTS	
PHASE D Individual Design Project (= development + design) 60 ECTS At least 40% is spend on design	