Hanze University of Applied Sciences Groningen

Programme

Qualification awarded
Bachelor of Science

Length of the programme
48 months

ECTS credits
240

Level of qualification
Bachelor

Mode
Full-time

Language
Dutch, with parts in English

School
Institute for Life Science & Technology

Locations
Groningen

Chemical Engineering

Profile of the programme

No content available

Learning outcomes

Graduates in Chemical engineering are employed to develop or apply new processes or improve existing processes, products or materials in engineering companies, chemical industry and in public institutes like water boards. A graduate of Hanze UAS comprises two professional profiles: Renewable Energy and Chemical Engineering.

Graduates of the Bachelor of Chemical Technology can demonstrate that s/he has achieved the ability to:

Perform research in the Applied Science domain which either helps to solve a problem or develop a method, or provides a greater understanding of a subject within his specific working environment, by:

- analysing a problem and using the analysis to formulate concrete questions that form the basis of a focused research plan;
- carrying out a literature search using both internal and external sources to explore the research questions further;
- setting up a planning to carry out the research plan, taking into account safety and environmental regulation;

Conduct experiments in the Applied Science domain in a way that ensures that demonstrably reliable results are obtained, by:

- assessing the suitability of available experimental methods and solving problems within the specific experimental programme;
- preparing a planning for the performance of experiments within a set project;
- carrying out experimental work while continuously assessing reliability of the results;
- keeping track of the progress of the experimental work and document results in a way that is transparent for workers in the field;
- using statistical methods to underpin the significance of experimental results.

Develop or improve a process, instrument, product or material or enable scale-up or scale down of processes in the Applied Science domain, by:

- carrying out design calculations for process equipment like pumps and heat exchangers and size the connecting piping system;
- using thermodynamic data and physical properties of materials to identify scale up or scale down aspects of production processes;
- adapting planning during a current development or engineering process based on gained insights and results;
- being the link between criteria for the development of materials, products or processes and (internal) client or customer demands and expectations.

The graduate demonstrates various generic competences by:

- taking initiatives to contact colleagues in order to exchange information and communicate conclusions to different levels in the organisation;
- contributing to the guidance and/or development of colleagues;
- showing professional attitude by being a motivated, flexible and valuable colleague;
- interpreting professional and ethical dilemmas and making decisions accordingly;
- critically evaluating own points of view and actions and taking responsibility for them;
- improving his own performance by self-reflection and receiving feedback.

Programme

Chemical Engineering	**credits**
	60
Quarter 1	*15*
CCVP23CHEMICUS - The Chemist and the Chemical Technologist	*5*
CCVP23CHREKENEN - Chemical Calculations	*5*
CCVP23CHBINDING - Chemical Bonds	*5*
Quarter 2	*15*
CCVP23EVENWICHT - Chemical Equilibria	*5*

- CTVP23PROCES1 - Process Engineering 1 *5*
- CCVP23WISKUNDE - Calculus *5*

Quarter 3 *15*
- CTVP23STROMING - Fluid Mechanics *5*
- CCVP23FYSCHEMIE - Physical Chemistry *5*
- CTVP23STATIST1 - Statistics 1 *5*

Quarter 4 *10*
- CTVP23PROCES2 - Process Technology 2 *5*
- CTVP23APPARAT1 - Process Equipment 1 *5*

- Electives *5*

  selection of following courses

Year 2 60

Theme 5 - Process Technology 1 *15*
- CTVH3THM5 - Laboratory theme 5 *6*
- CTVH22ORGCHEMIE1 - Organic Chemistry 1 *3*
- CTVH3CWT1 - Chemical Processing Equipment *3*
- CTVH8WOD - Heat Transfer *3*

Theme 6 - Process Optimisation *15*
- CTVH3TH6 - Laboratory theme 6 *4*
- CTVH3DSO1 - Design & Optimisation *4*
- CTVH3MRT - Measurement & Control Engineering *4*
- CTVH3NUM - Numerical Methods *2*
- LSVH7STB2A - Academic Counselling Year 2 - Part 1 *1*

Theme 7 - Synthesis *15*
- CTVH3TH7 - Laboratory theme 7 *6*
- CTVH3FCH1 - Thermodynamics *3*
- CTVH18DST1 - Distillation 1 *3*
- CTVH18RAK1 - Chemical Reactor Engineering 1 *3*

Theme 8 - Polymer Technology *15*
- CTVH3TH8 - Laboratory theme 8 *5*
- CCVH5PKC1 - Polymer Chemistry *3*
- CCVH5PKC2 - Colloid Chemistry *3*
- CTVH5DST2 - Distillation 2 *3*
- LSVH7STB2B - Academic Counselling Year 2 - Part 2 *1*

Year 3 60

Internship Placement *30*
- CTVH19STAGE - Practical Learning Period *28*
- LSVH15KWALZ - Quality Assurance *1*
- LSVH15ARBO - Health & Safety *1*

Theme 11 - Process Technology 2 *15*
- CTVH8THM11 - Laboratory theme 11 *4*
- CTVH6AST1 - Separation Technology 1 *3*
- CTVH0RAK2 - Chemical Reactor Engineering 2 *3*
- CTVH16CORRELP - Corrosion & Electrolysis *4*
- LSVH7STB3A - Academic Counselling Year 3 - Part 1 *1*

Theme 12 - Process Dynamics and Modeling *15*
- CTVH0THM12 - Laboratory theme 12 *7*
- CTVH8PDC - Process Dynamics *2*
- CTVH6AST2 - Separation Technology 2 *3*
- CTVH0RAK3 - Chemical Reactor Engineering 3 *3*

Year 4 60

- Electives *30*

Final Internship Project *30*
- CTVH15AFST - Final Project *30*