Hanze

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

Chemistry

Profile of the programme

No content available

Learning outcomes

Graduates in Chemistry are employed as research technicians in chemical laboratory of industries, universities and hospitals. Main subject areas are: organic chemistry, analytical chemistry and polymer chemistry & materials.

Graduates of the Bachelor of Chemistry programme can demonstrate that s/he has achieved the ability to:

Perform research in the Chemistry 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:
- setting up and performing complex (bio) organic synthesis;
- developing and validating an instrumental and/or analytical (bio) chemical determination;
- having insight into the goal of the research and the applied methods;
- independently selecting and using relevant literature.

Conduct experiments in the Chemistry domain in a way that ensures that demonstrably reliable results are obtained, by:
- independently designing a work plan and taking in consideration: time-schedule, feasibility,

methods and techniques;
- executing a work plan effectively and efficiently and adapting, if necessary;
- conducting the experiments and analyses responsibly;
- obtaining reliable results;
- evaluating and interpreting results showing insight into the significance of results and the

consequence of deviations in the results;
- reporting results according to the laboratory standard;
- combining results logically and drawing conclusions showing critical interpretation and

problem solving capacities.

Develop, implement and maintain a management system or parts thereof to ensure that the system conforms to the relevant legislation and quality standards and the organisation’s norms and values, by:
- administrating results and managing samples.

Provide properly substantiated advice on the design, improvement or use of products, processes and methods and effects profitable transactions involving products or services within the Chemistry domain, by
- advising considering practical work, formulating proposals for applicable methods and techniques and recommendations for future research.

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

Chemistry	**credits**
	60
Quarter 1	*15*
CCVP23CHEMICUS - The Chemist and the Chemical Technologist	*5*
CCVP23CHREKENEN - Chemical Calculations	*5*

- CCVP23CHBINDING - Chemical Bonds *5*

Quarter 2 *15*
- CCVP25EVENWICHT - Chemical Equilibria *5*
- CHVP23ORGCHEMIE - Introduction to Organic Chemistry *5*
- CCVP23WISKUNDE - Calculus *5*

Quarter 3 *15*
- CHVP23CHROMATOGR - Chromatography and Spectrometry *5*
- CCVP23FYSCHEMIE - Physical Chemistry *5*
- CHVP23BIOCHEMIE - Biochemistry 1 *5*

Quarter 4 *10*
- CHVP23STATISTIEK - Statistics for Analytical Chemistry *5*
- CHVP23ELEKTROCHM - Electrochemistry *5*

Electives *5*

selection of following courses
- LSVX23ANATOMIE - Human Anatomy and Physiology: The Human Body under the Magnifying Glass *5*
- LSVX23CIRCUCHEM - Applied Circular Chemistry *5*
- LSVX23FILOSOFIE - Science Philosophy and Ethics *5*
- LSVX23HEALTHY - Healthy Ageing *5*
- LSVX23LABVAARDIG - Introduction Laboratory Skills *5*
- LSVX23OCTAVEMATL - Programming in Octave/MATLAB *5*
- LSVX23PYTHON - Introduction Programming in Python *5*
- LSVX24COMMUNICAT - Communication Skills *5*
- LSVX24CREATIEF - Creative Writing *5*
- LSVX24INDUSTRBIO - Introduction to Industrial Biotechnology *5*
- LSVX24INFECTIE - Infectious Diseases *5*
- LSVX24INLENERGIE - Introduction to the Energy Transition *5*
- LSVX24INLPSY - Introduction to Psychology *5*
- LSVX24KLIMAAT - Climate Change and Saline Soils *5*
- LSVX24MEDICIJN - Drug Discovery *5*
- LSVX24PERSPRJ - Personal Project Space *5*
- LSVX25PATIENT - The patient fit and prepared *5*
- LSVX25VOEDING - Healthy, Durable and Safe Food *5*

Year 2 60

Quarter 5 *15*
- CHVH24ORGCHEMIE1 - Organic Chemistry 1 *5*
- CHVH24SPECTRO - Spectrometry *5*
- CHVH24STATISTIEK - Statistics for Analytical Chemistry 2 *5*

Quarter 6 *15*
- CHVH24ORGCHEMIE2 - Organic Chemistry 2 *5*
- CHVH24SPECTECH - Spectroscopic Techniques *5*
- CHVH24FYSCHEMIE2 - Physical Chemistry 2 *5*

Quarter 7 *15*
- CHVH24CHROMATPOT - Chromatography and Potentiometry *5*
- CCVH24CIRCUPOLYM - Circular Polymers *5*
- CHVH24BIOCHEMIE2 - Biochemistry 2 *5*

Quarter 8 *10*
- CHVH24CHEMOMETR1 - Chemometry *5*
- CHVH24COLLOIDCHM - Colloid Chemistry *5*

Electives *5*

selection of following courses
- LSVX23ANATOMIE - Human Anatomy and Physiology: The Human Body under the Magnifying Glass *5*
- LSVX23CIRCUCHEM - Applied Circular Chemistry *5*
- LSVX23FILOSOFIE - Science Philosophy and Ethics *5*
- LSVX23HEALTHY - Healthy Ageing *5*
- LSVX23LABVAARDIG - Introduction Laboratory Skills *5*
- LSVX23OCTAVEMATL - Programming in Octave/MATLAB *5*
- LSVX23PYTHON - Introduction Programming in Python *5*
- LSVX24COMMUNICAT - Communication Skills *5*
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- LSVX24KLIMAAT - Climate Change and Saline Soils *5*
- LSVX24MEDICIJN - Drug Discovery *5*
- LSVX24PERSPRJ - Personal Project Space *5*
- LSVX25PATIENT - The patient fit and prepared *5*
- LSVX25VOEDING - Healthy, Durable and Safe Food *5*

Year 3 60

Quarter 9 *15*

CHVH25ORGCHEMIE3 - Organic Chemistry 3	*5*
CHVH25CHROMAT - Chromatografy	*5*
CHVH25PROJECT1 - Project Part 1	*5*
Quarter 10	*15*
CHVH25MONSTER - Sample Preparation Techniques	*5*
CHVH25SPECTECH2 - Spectroscopic Techniques 2	*5*
CHVH25PROJECT2 - Project Part 2	*5*
Electives	*30*
electives	
Year 4	60
Internship placement	*30*
CHVH19STAGE - Practical Learning Period	*28*
LSVH15KWALZ - Quality Assurance	*1*
LSVH15ARBO - Health & Safety	*1*
Final Internship Project	*30*
CHVH15AFST - Final Project	*30*

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