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
School of Communication, Media & IT

Locations
Groningen

Information & Communication Technololgy, Major SE

Profile of the programme

Hanze UAS's HBO-ICT programme trains students to become ICT professionals capable of taking on a specialist role based on their solid grounding in ICT. These professionals can be rapidly and effectively deployed within the professional field. The curriculum is designed to ensure a balance between this solid grounding and ongoing development. We offer our students a solid basis of knowledge in combination with an inquisitive 8 mindset, ensuring that they have the desire and ability to keep up with the latest developments after graduation. In addition to expertise, the business community needs ICT professionals with a broad range of professional skills. In order to meet this need, the degree programme has added two activities to the HBO-ICT model: research and communication. The high degree of integration between devices, information systems and organisations necessitates professionals with a critical and inquisitive mindset and a focus on collaboration.

The full-time HBO-ICT programme starts with a more or less joint first-year phase, followed by three majors: Business IT & Management; Network & Security Engineering (NSE) and Software Engineering (SE).

Major Business IT & Management
Analyses the information and the processes needed to support business plans. Formulates functional and non-functional requirements of the business organisation and advises on the lifecycle of the information solutions. Evaluates the impact in terms of change management. Finds, manages and merges multiple data sources and ensures consistency of datasets. Identifies the mathematical models, selects and optimises the algorithms to deliver business value through insights. Communicates patterns and recommends ways of applying data.

Major Network & Security Engineering
Manages and operates a networked information system, solving problems and faults to ensure defined service levels. Monitors and improves network performances and security. Defines, proposes and implements necessary information security techniques and practices in compliance with information security standards and procedures. Contributes to security practices, awareness and compliance by providing advice, support, information and training.

Major Software Engineering
Ensures building and implementing of ICT applications. Contributes to low-level design. Writes code to ensure optimum efficiency and functionality and user experience. Ensures the technical design and contributes to the implementation of new and/or enhanced software provision. Provides solutions for the improvement of organisational efficiency and productivity.

Learning outcomes

The HBO-ICT graduate is able to:

1. Analyse: Analysing processes, products and information flows as well as their interrelationships and environmental context.
2. Advise: Providing advice on the restructuring of processes and/or information flows and ICT systems to be developed or purchased in future on the basis of analysis and consultations with stakeholders.
3. Design: Designing an ICT system on the basis of specifications and predetermined frameworks.
4. Implement: Building an ICT system on the basis of design specifications and predetermined frameworks.
5. Manage & Control: Managing all activities associated with the process of development, implementation and use of ICT systems.
6. Communicate: Communicating, both in writing and orally, in a clear, convincing, effective, and target-group oriented manner.
7. Research: Substantiating the development of his/her ICT professional product for application in a specified context, by means of applied research in which data are collected and analysed systematically and methodically.

Programme

Information & Communication Technololgy, Major SE	**credits**
Year 1 Major SE	60
Introduction ICT I	*15*
ITVP22PGM1 - Programming I	*5*
ITVP23DBS - Databases	*5*
ITVP22BDK - Business Administration	*5*
Introduction ICT II	*15*
ITVP23PGM2 - Programming II	*5*

- ITVP20INF - Infrastructures and Security *5*
- ITVP23RAN - Requirements Analysis *5*

Internet of Things I *15*
- ITVP23WIS - Discrete Mathematics *5*
- ITVP20WEB - Web Technologies *5*
- ITVP23IOT1 - Project Internet of Things I *5*

Internet of Things II *15*
- ITVP22SCY - Software Security *5*
- ITVP23CAR - Computer Architectures *5*
- ITVP23IOT2 - Project Internet of Things II *5*

Year 2 Major SE 60

Intelligent Systems I *15*
- ITVB21ALG1 - Algorithmics I *5*
- ITVB21OOP1 - Object-oriënted Programming I *5*
- ITVB22ISY1 - Project Intelligent Systems I *5*

Intelligent Systems II *15*
- ITVB23ALG2 - Algorithmics II *5*
- ITVB21OOP2 - Object-oriënted Programming II *5*
- ITVB25ISY2 - Project Intelligent Systems II *5*

Web Applications I *15*
- ITVB21WEB2 - Web Technologies II *5*
- ITVB21DBS2 - Databases II *5*
- ITVB21WAP1 - Project Web Applications I *5*

Web Applications II *15*
- ITVB21WEB3 - Web Technologies III *5*
- ITVB23OWS - Development Pipelines *5*
- ITVB22WAP2 - Project Web Applications II *5*

Year 3 Major SE 60

Electives *30*

electives

Working on Professional Products *30*
- ITVB25WBPSE1 - WPP: Developing a new Fullstack application *30*

Year 4 Major SE 60

Software Engineering I *15*

Software Engineering I - Mandatory courses *10*
- ITVB23SWA - Software Architecture *5*
- ITVB24REE - Law and Ethics *5*

Software Engineering I - Elective *5*

selection of following courses
- ITVB23KMO1 - Application Security *5*
- ITVB23KMO2 - Machine Learning *5*
- ITVB23KMO3 - Free Assignment - Elective Module year 4 *5*

Software Engineering II *15*

Software Engineering II - Mandatory courses *10*
- ITVB23OWS - Development Pipelines *5*
- ITVB23SSU - Software Startup *5*

Software Engineering II - Elective *5*

selection of following courses
- ITVB23KMO4 - Capita selecta Artificial Intelligence *5*
- ITVB23KMO5 - Mobile App Development *5*
- ITVB23KMO6 - Free Assignment - Elective Module year 4 *5*

Graduation Project *30*

one of following courses

Graduation Project *30*
- ITVB18ASO - Graduation Project *30*

Graduation Project Abroad *30*
- ITVB18ASOB - Graduation Project Abroad *30*

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