



HBO HELDER
HELDER INSTITUTE OF APPLIED SCIENCES

STUDY GUIDE

2024-2025

**MASTER
SOFTWARE
TECHNOLOGY**

WWW.HBOHELDER.NL

Colophon

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Dear software enthusiast,

You have before you the 2024-2025 study brochure for the Master of Software Technology programme: a professional Master's programme unique to the Netherlands, especially designed to fill the gap of educating academically trained professional software experts, with a background in applied research.

This four semester (2 years part-time), internationally-oriented course of study is designed to meet the demands of industry for highly motivated, team-oriented software experts. Students learn and apply state-of-the-art technology and standards in the fields of software development, information management, computer networks, and electronic commerce.

All (master)classes are beyond Bachelor level education, building on top of the strong foundation of previous education in Information Technology, Software Engineering or Computer Science.

We wish you a very pleasant experience reading this brochure and determining whether this programme can be the right fit for you. Don't hesitate to ask one of our lecturers if you need extra help on certain questions.

Read more about
our programme



Team HBO Helder
Haarlem - March 2024

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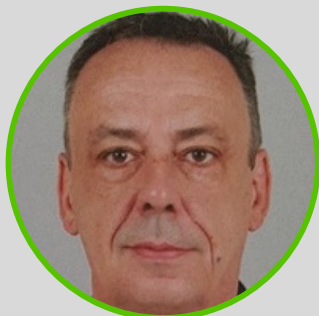
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We are hiring

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1. Contents of the programme

1.1 Competency-based learning

The programme Master of Software Technology works towards five main competencies: **Developing (1), Designing (2), Analyzing (3), Researching (4), Leading (5).**

1. Developing

The Master of Software Technology is an expert in developing large-scale software systems or software (programming/modeling/conceptual) languages.

2. Designing

The Master of Software Technology is the applied graphical, functional, technical and data-oriented designer of enterprise software applications, languages or systems.

3. Analyzing

The Master of Software Technology uses scientific and/or practical proven methods for analysis, interpretation and advice on software problems in a highly demanding context.

4. Researching

The Master of Software Technology uses academic peer-reviewed research methods and instruments to read, write and perform research on software at an excellent level.

5. Leading (Professionalising as a Software Leader)

The Master of Software Technology uses his position to further develop the software field by leading as a change agent inside and outside an organization context.

1.2 Educational concept

The educational concept is loosely based on most vocational or professional higher education programmes in the Netherlands. Most educational activities are based or tied to project work in Dutch Bachelor's programmes. In this Master's programme, the focus will be on individual development on multiple areas in multiple contexts. However, this individual learning process is stimulated and supported by a vivid learning community: lecturers, fellow students, (external) companies and experts in the field of Software Technology. Throughout the programme, students work on their own skills and knowledge following a competence-based educational model: the curriculum is divided in three themes, that are merged within the courses offered. The themes are (1) the Knowledge & Understanding theme, (2) the Skills theme and the (3) Professional Growth & Development theme.

The staff of the programme consists of a team of software Lecturers, each specialists in their field. The courses are coordinated by some of these Lecturers, the coordinators. Renowned Experts in the field (both nationally and internationally) are invited to lecture in the Masterclasses.

2. Curriculum

2.1 CORE MODULES

Hereafter follows a brief curriculum overview of which courses are taught throughout the 2 year programme.

| Year | Term | Course code | Course name | Credits (ECTS) | Method of Teaching |
|------|---------|---------------------|------------------------------------------------|----------------|---------------------------------------|
| 1 | 1 | MSTSED | Software Engineering and Development | 5 | Masterclasses & practical assignments |
| | 1 | MSTSTV | Software Testing and Validation | 5 | Masterclasses & practical assignments |
| | 1 | MSTAWR | Academic Writing and Research Skills | 5 | Research classes |
| | 2 | MSTDTS | Developments in Software Technology | 5 | Masterclasses |
| | 2 | MSTDEF | Defensive Software Security | 5 | Masterclasses & practical assignments |
| | 2 | MSTMOC | Management of Change[1] | 5 | Masterclasses & practical assignments |
| 2 | 3 | ELECTIVE COURSE 1** | ELECTIVE COURSE 1 ** (MSTOFF/MSTTCH/MSTSUP) | 5 | Action Learning |
| | 3 | MSTMTP | Thesis Preparation | 2 | Research classes |
| | 3 + 4 | MSTMTH | Master Thesis | 18 | Thesis Writing Circles |
| | 1,2,3,4 | MSTPFC | Software Leadership & Professional Coaching[1] | 5 | Coaching |
| | | | | 60 ECTS | |

**-. During the first year, one elective course of 5 ECTS can be chosen to customize the programme to your personal needs. Our institution offers several elective courses (next paragraph), but students can also take courses from other universities (pending approval of Examination Board).

[1] Working title, this course is being newly developed



2.2 Elective Courses

During the first year, one elective course can be chosen for further specialization.

| Course code | Course name | Credits (ECTS) | Method of Teaching |
|-------------|--------------------------------------------|----------------|-----------------------|
| MSTOFF | Offensive Software Security & Cryptography | 5 | Practical assignments |
| MSTSUP | Software Entrepreneurship | 5 | Action Learning |
| MSTTCH | Software Teaching | 5 | Action Learning |

Students can also opt for following other Master's courses at different Universities of Applied Sciences or Research Universities, after being approved by the Examination Board.





**“SOFTWARE IS
THE LANGUAGE
OF AUTOMATION.”**

Jensen Huang



3. Entry requirements

3.1 Prior education

Most of our students have a prior Bachelor's degree in one of the following fields:

- **Computer Science**
- **Information Technology**
- **Game Technology**
- **Artificial Intelligence**
- **(Applied) Mathematics**
- **Business IT & Management**

The programme Software Technology is a programme based on prior knowledge and skills of programming, software modeling, human computer interaction, databases and business processes.

3.2 Official Admission Requirements

The official admission requirements are the following:

- The candidate must have a relevant Bachelor's degree (in one of the fields mentioned above).
- The candidate must have two years of relevant working/internship experience in the field of IT.
- The candidate must have a relevant occupation throughout the years of the programme (at least one day per week and at most four days per week).
- The candidate can demonstrate written and oral proficiency in English (either through a European Bachelor's degree, a Cambridge certificate CPE / CAE, through BEC Higher, through IELTS [7 or higher] or through TOEFL (iBT 110 or higher).

If these requirements are **met**, the candidate will be admitted to the Master's programme.

If these requirements are **not met**, the candidate, holding at least a Bachelor's degree, can apply for an admission assessment.

4. Study Costs

4.1 Pricing policy

Helder Institute of Applied Sciences / HBO Helder provides unfunded courses at higher professional education level. The rates are adjusted annually based on price indexations and cost developments. Every year in October we publish the new prices for the courses for the following academic year on the website.

| | |
|---------------------------------------------|----------------------------|
| Tuition fee per year | € 4.973,00 per year |
| Lecture materials (books, syllabi, readers) | included |
| Admission fees | included |
| Exam costs, (graduation) supervision | included |
| Total per year | € 4.973,00 per year |
| Or 12 monthly payments | (+10% fee) |
| Or 24 monthly payments | (+15% fee) |

4.2 Payment plans

We offer flexible payment plans:

- Paying at once before 1st of August (-10% discount)
- Paying at once before 1st of September (no discount)
- Paying in 5 bi-monthly terms (no discount)
- Paying in 12 monthly payments (+10% FEE)
- Paying in 24 monthly payments (+15% FEE)

5. Graduation (tracks)

5.1 Become an expert in your own niche!

The applied master's degree Master of Software Technology trains you to become a software expert within your own field. Building on the knowledge from the Bachelor's program, further depth is added. You graduate by developing their own application, their own programming language, a programming paradigm (design pattern) or a new modeling technique.

We offer three graduation tracks to choose the path you want to specialize in:

| Specialization | THE ARCHITECT | THE ACADEMIC | THE ENTREPRENEUR |
|-----------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Business Context / role | LARGE-SCALE ENTERPRISE SOFTWARE DEVELOPMENT | LECTURER / RESEARCHER | OWN DEPARTMENT / START-UP / OWN COMPANY |
| Graduation proof: | Master Thesis with a Minimum Viable Product for an Enterprise Software Application; | Published peer-reviewed journal article; OR Published (hand)book; | Action learning portfolio of software start-up with a Minimum Viable Product, validated by third parties; |
| Required specialization elective: | MSTOFF - Offensive Software Security & Cryptography | MSTTCH - Software Teaching | MSTSUP - Software Entrepreneurship (Software Startup) |
| | All Minimum Viable Products require at least one development iteration after publication and validation. | | |

6. Campus Location

6.1 Our campus in Haarlem

The Helder Institute / HBO Helder campus is located in Haarlem, where we combine high-quality education with practice-oriented research with teachers who are passionate about their field. Haarlem welcomes students from all over the world. The international atmosphere in the city offers an enriching experience, where you can learn from different cultures and perspectives, making your study period even more valuable. In short, Haarlem is not only a city full of history and culture, but also a dynamic and inspiring place to study. Discover the unique combination of academic excellence, cultural richness and a vibrant student community that makes Haarlem a great choice for your studies.

In Haarlem, Helder Institute of Applied Sciences (HBO Helder) provides the Applied programme 'Master of Software Technology'*.

Campus of Helder Institute of Applied Sciences / HBO Helder

The Campus is located on the grounds of Crown BC in Haarlem. We share facilities/spaces with other educational institutions and companies.

6.2 Entrance

The 'Crown' building is publicly accessible every working day from 8:30 AM - 5:00 PM.

After 5 p.m. and during weekends, the building is accessible with a 'tag' that can be provided to 'HBO Helder' students on request.



6.3 Front desk

The receptionist is available during opening hours for questions about reception, internet access, printing & scanning, company security and signage throughout the building.



6.4 Restaurant on campus

The Crown restaurant is located on the 1st floor of the Crown building, open daily from 9 a.m. to 5 p.m.

There are at least 100 seats, and in the summer there is the opportunity to sit outside. The range consists of fresh sandwiches, soups, salads, fries and snacks, paninis, soft drinks, coffee, tea and cookies every day.

Payment can only be made with PIN / debit card.



Helder Institute of Applied Sciences (HBO Helder)

A. Hofmanweg 5 A (1st floor, units B-33 / B-34)
2031 BH HAARLEM

HBO Helder is easily accessible by public transport from station Haarlem or station Haarlem-Spaarnwoude



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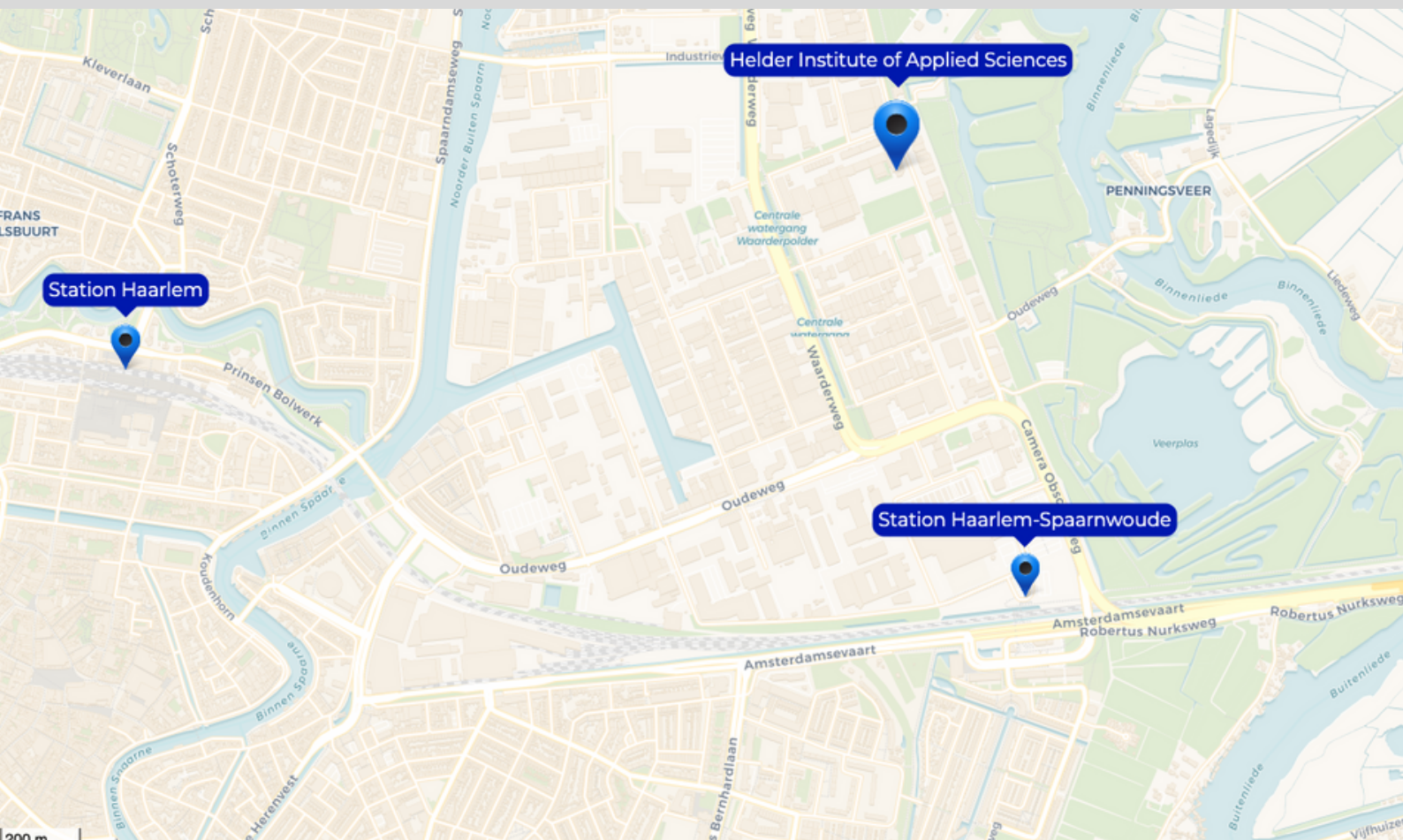


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KvK: 92343465

RSIN: 866017847

ING: NL45 INGB 0104 7258 42



7. Factsheet

| | |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| | |
| Number of modules | 9 core modules + 1 elective module |
| Yearly intake | Minimum of 25 students |
| Number of European Credits | 60 EC |
| Number of hours per EC (SLH) | 28 study load hours per EC |
| Total study load (TSLH) | 1.680 hours |
| Type of Degree | Applied Master's degree (Dutch: hbo Master)* |
| Educational level | EQF7 / NLQF 7 (post-graduate degree) |
| Timespan | 2 years (part-time) |
| Lectures on | Fridays (year 1) + Thursdays (year 2) |
| Location | Friday: Haarlem (year 1) Thursday: online/Haarlem (year 2) |
| Number of contact hours per week | 8 hours per week (year 1) 6 hours per week (year 2) |
| Extension of study time possible | 2 years nominal + 2 years extension = 4 years possible |
| Degree after graduating | Master of Science (MSc.)* |
| Admission criteria: | - (Applied/hbo-)Bachelor degree in the field of IT - minimum of 2 years working experience (including internships) |
| Admission after: | Enrollment + Intake (without obligations) |
| Alternative admission | Admission after non-IT-related (Applied/hbo-) Bachelor (all degrees) + finish Premaster Software Technology (30 EC) |

* the Master of Science degree (in Software Technology) can only be awarded after a positive accreditation decision from the NVAO

8. Benefits of a HBO Helder programme

Studying at HBO Helder / Helder Institute of Applied Sciences comes with some unique benefits, and takes away the frustration common when studying at one of the other major educational institutions:

- The timetable or lecture schedule is fixed and known for the entire study year before the study year starts
- No bureaucracy: less managers, less departments, more lecturers
- Short timeframes for grading your work and publishing your results because of low overhead and automated workflows
- Our study programmes are designed to take into account the balance of studying and a busy life filled with work, friends, family, children, sports, hobbies and other activities.
- Affordable fixed fees with no additional fees and fair payment plans
- Our lecturers know you by name, not by student number, we know what drives you and how to motivate you to finish your courses
- HBO Helder / Helder Institute of Applied Sciences is specialized in Applied Master's degrees as one of the few educational institutions in the world
- No mandatory premaster if you have done a relevant Bachelor's degree before your desired Master's degree

HBO Helder:
personal,
transparent
and accessible

9. About Helder Institute of Applied Sciences / HBO Helder

9.1 About

Helder Institute of Applied Sciences / HBO Helder is a private educational institute in the field of Technology & ICT in the Haarlem, Zuid-Kennemerland and North Holland region. Education, research and valorization of knowledge are our core activities.

9.2 Research in the field of Information & Communication Technology

HBO Helder contributes to a 'smart' and technologically driven society through practice-oriented research and education, where people are central. Our lecturers, lecturer-researchers, lecturers and students work closely with the professional field, governments and social partners on issues from daily practice.

The results of our research – solutions and innovations – not only make an important contribution to professional practice, but also help train future professionals who can successfully contribute to solving social issues.

Our research is conducted within the field of software technology within the Software Technology research group ('lectoraat').



