

MASTER ENGINEERING SYSTEMS 2025-2026

CYBER-PHYSICAL SYSTEMS

WANT TO BECOME AN EXPERT ON THE ADVANCED AUTOMATION SYSTEMS USED IN INDUSTRY? APPLY FOR THE MASTER IN CYBER-PHYSICAL SYSTEMS.

[HANUNIVERSITY.COM/MCPS](https://hanuniversity.com/mcps)

OPEN UP NEW HORIZONS.

HAN UNIVERSITY
OF APPLIED SCIENCES



PROFESSION

Cyber-physical systems are part of everyday life. Examples range from smart phones to autonomous driving vehicles and from drones to manufacturing robots. What do all these systems have in common? They're all computer or computer-based systems that control a physical mechanism. And their component parts, like hardware, software, communication, control, human-machine interface, are all deeply intertwined. This requires a dedicated design by engineers who can integrate the three C's: computer, control, and communication. For this integration, principles of different scientific fields are combined, like embedded, distributed and advanced control, advanced vehicle dynamics, mechatronic design, machine learning, data science and real-time communication.

JOBS

With this master degree, you can get a job as:

- Embedded Systems Architect
- Vehicle Dynamics and Control Engineer
- Real-time Systems Engineer
- Embedded Software Engineer
- Control and Instrumentation Engineer
- Lead Control Systems Engineer
- Senior Project Engineer
- Process Modeling and Simulation Engineer

A GOOD MATCH?

- Are you looking to take your engineering expertise to the next level?
- Are you interested in cyber-physical systems and how to design and develop them?
- Do you want to broaden your career opportunities?
- Are you analytical and do you enjoy doing applied research?
- Do you want to develop your leadership qualities?

YES? Then the program is a good match for you!

MODULAR-BASED PROGRAM

Engineering Systems is modular-based. You follow 4 modules in total and conclude with a major project. Each module starts with the theory. Then you participate in a group project where you apply the theory in a real-life case. This is called the minor project. The modules you follow depend on your track. Each track has compulsory and elective modules.

PROGRAM IN BRIEF

THEORY AND PRACTICE

Theory and practice are closely integrated in this master degree. In the 1st year you follow practice-based modules. So you delve into the theory and at the same time put it into practice during minor projects. Here you work in small groups with other students. Your aim? To solve actual issues from research and industry. Knowledge and techniques from research are thus implemented and applied in an industrial environment. This collaborative approach strengthens ties with industry and stimulates the exchange of knowledge. After finishing the practice-based modules you work on your major project. That's when you independently conduct research for a company.

TRACKS

Cyber-Physical Systems is one of the 3 tracks within the Master of Engineering Systems. The other tracks are:

- Automotive Systems
- Sustainable Energy

What is common to all these tracks? Solving complex problems through applied research. And developing innovations that meet the needs of the market and/or society.

WHY STUDY CYBER-PHYSICAL SYSTEMS AT HAN?

Collaborate with research center

Collaborate with HAN's Research Centers in Balance Energy Systems and Automotive Research. Its research is at the crossroads between energy and mobility.

Career opportunities

Loads of career opportunities. Start working in the technical sector, higher education, a research institute or R&D department.

Transfer directly after bachelor

Transfer directly into this master after your Bachelor in Automotive Engineering, Electrical Engineering, Mechanical Engineering or related discipline.

RESEARCH

Work with classmates and staff on innovative research projects during your studies. How? Through the HAN research centers. The group collaborates with industrial partners on various research themes. One of the current themes is self-driving (autonomous) cars.

PROGRAM OVERVIEW

1st semester

Systems Modeling Module:

- Applied Physics
- Introduction Modeling
- Practice Modeling and Simulation
- System Identification
- Energy-Based Modeling
- Minor Project

Applied Control Module:

- Feedback Control
- Digital Control
- Apply Controller Strategies
- Controller Implementation
- Multivariable Systems and Optimization
- Minor Project

2nd semester

Choose 2 elective modules from:

Advanced Vehicle Dynamics:

- Modeling, Simulation and Testing
- Comfort, Road Holding and Handling
- Passenger Cars, Articulated Vehicles, Motorcycles, Driver Modeling
- Minor Project

Big Data and Small Data:

- Data Collection, Exploration and Preprocessing for Machine Learning
- Machine Learning
- System Identification
- State and Parameter Estimation
- Advanced Modeling (Minor Project)

Embedded Control:

- Design of Real-Time Embedded Systems
- Nonlinear Systems Analysis and Control
- Sensors and Actuators
- Overview of State-Of-The-Art Control Strategies
- Minor Project

3rd semester:

- Major Project

MAJOR PROJECT

During your major project, you do research in an industrial setting. Previously you worked in teams with classmates. Now you're in the lead! Demonstrate your technical, communication, reporting and presentation skills. The project takes 5 to 6 months for full-time students. Past students did their graduation projects at Bosch, Hyster-Yale, DAF, Ford, Apollo Tyres, VDL, and V-Tron. Want to do your project abroad? No problem. HAN can support you online.

STUDY PART-TIME

Want to broaden your knowledge while working? Develop your professional skills even further with the part-time Cyber-Physical Systems track. Instead of doing an internship, you expand your skills in your current job.

→ Duration: 2.5 - 3 years

→ Study load: 20 hours/week with 8-10 contact hours on 1 day

→ Start in September

hanuniversity.com/mcps/parttime

ADMISSION REQUIREMENTS

For this master, there will be a selection procedure. The following admission requirements apply. You need to have one of these bachelors:

- Bachelor degree in Automotive Engineering; Electrical Engineering; Mechanical Engineering or related discipline.

Fluency in English:

- Depending on your educational background, an English proficiency test may be required.

hanuniversity.com/admission





OPEN DAYS

Interested in Cyber-Physical Systems? Join one of our Online Open Days in November, January or March. Talk to our students. Ask all your questions. Get a tour through our campuses and much more!

hanuniversity.com/openday

NEXT STEPS IN ORIENTATION

Interested in studying at HAN University of Applied Sciences? Want to find out more first? Come and meet us! Either online or in person. Here's how you can meet our lecturers, students and alumni:

- Open Days
- Education Fairs
- Webinars
- Meet 1:1
- Student for a Day
- Sample Lecture

hanuniversity.com/meetus

APPLICATION PROCEDURE

Step 1

Apply on [Studielink.nl](https://studielink.nl). Select the program Master Engineering Systems. Then select the track Cyber-Physical Systems.

Step 2

Upload the necessary documents. You can see your application status and find the required documents on [My Application](#).

Step 3

The program manager reviews your application. You might be asked for additional information.

Step 4

Find out whether you've been accepted. You'll be informed about the outcome of your application by mail.

Step 5

Admitted to the program? Paid the tuition fees? Then you're officially enrolled in the program.

IN SHORT



Location
Arnhem



Language
English



Program start
September



Program duration
Full-time: 1.5 years
Part-time: 2.5 - 3 years



Study load per week

- Full-time: 40 hours (of which 16-20 contact hours on 2 days per week)
- Part-time: 20 hours (of which 8-10 contact hours on 1 day per week)



Degree
Master of Science in Engineering Systems



Accreditation
Accredited by the Accreditation Organisation of the Netherlands and Flanders (NVAO)

OPEN UP NEW HORIZONS.

HAN CAMPUS ARNHEM

Ruitenberglaan 29
6826 CC Arnhem
Netherlands

QUESTIONS?

Education Office
Master Engineering Systems
+31 26 365 82 15
technicalmasters@han.nl
www.hanuniversity.com

SOCIAL

[HANuniversitycom](https://www.hanuniversity.com)
 [HANuniversity_com](https://www.instagram.com/HANuniversity_com)
 [HANuniversity_com](https://www.twitter.com/HANuniversity_com)
 [Master Engineering Systems](https://www.linkedin.com/company/HANuniversity)