Academic Guide Exchange 2026-2027

Faculty of IT & Design

The Hague University of Applied Sciences

let's change
YOU. US. THE WORLD.

THE HAGUE
UNIVERSITY OF
APPLIED SCIENCES

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Foreword

An exchange at The Hague University of Applied Sciences (THUAS) is a truly international experience. THUAS welcomes more than 500 exchange students from around 50 nationalities every academic year. Our academic year is divided into two semesters, which start in September and end of January. Mobilities may last a semester or a full academic year, depending on the Programme.

Our exchange students gain a rich cultural experience by studying alongside our large number of Dutch and international full-time students of English-language bachelor degree programmes. Our high-quality programmes encourage students to explore each other's cultures to become open-minded and independent thinkers – qualities which are essential in the present-day market. Working in a multicultural and cosmopolitan environment becomes second nature to our students.

Exchange students come to The Hague University of Applied Sciences as part of a reciprocal exchange programme with a partner university and must first be nominated by their home institution. Students nominated under our bilateral agreements are not charged tuition fees at THUAS but remain registered with and pay tuition to their home university. Free movers, by contrast, are responsible for paying tuition fees and arranging their admission independently.

The Hague University of Applied Sciences also participates in the Erasmus+ Programme, which enables the mobility of students and staff, the organisation of Blended Intensive Programmes (BIPs), as well as participation in BIPs hosted abroad. In addition to BIPs, blended short-term and long-term mobility is available for studies and traineeships, as well as for staff mobility for teaching and training purposes.

Content

The Hague University of Applied Sciences

Welcome to The Hague University of Applied Sciences (THUAS)!

At THUAS, we encourage our students, lecturers and partners to develop into open-minded global citizens – to stand firm in their own convictions and face the world. We realise that our own professional commitment makes a difference, and we must work together to develop and apply creative solutions.

The Hague is the perfect location to become a global citizen. It is the capital city of the South Holland province and the International City of Peace and Justice – the political heart of the Netherlands. It is home to the Peace Palace, International Court of Justice, Binnenhof (parliament), 115 embassies, multinationals like Shell, Siemens, and ING, and many international NGOs.

These are the values that drive us at THUAS:

- **Curious:** We are curious, ambitious, and enterprising. We are keen to contribute with critical thinking.
- **Caring:** We are dedicated, and we care about your personal growth.
- **Connecting:** We invest significantly in our network in order to develop new insights together.
- **Committed:** Together, we keep moving forward, no matter the challenge.

At THUAS, we constantly need to apply new perspectives and solutions to resolve present and future challenges. We want to empower our students to change and improve the world they live in, but this can only happen if we work together – if we evolve and change.

So, let's change. You. Us. The world.

For the coming Academic Year, The Hague University of Applied Sciences (THUAS) once again opens its doors to you, exchange students, from our hundreds of partners around the world. We are looking forward to welcoming you all.

In this academic guide, you will find general information on everything you need to start your exchange at THUAS, like the ECTS and period of offering of each course, more information on that course, such as assessment type, criteria, learning outcomes, a social guide, contact information, etc.

We here at THUAS hope that you will find the best-suited combination of classes in order to not only complete your studies but also grow as an individual and as part of a group. Furthermore, we hope that after sharing a semester or a year with us, you will return to your home institution as a 'Global Citizen'. Join us and experience a university where diversity, global perspectives, practical experience, and academic excellence come together!

General information

THUAS is a vibrant and international community, home to **24,948 students of 123 nationalities**. Our university spans four campuses across three cities: two in The Hague, one in Zoetermeer, and one in Delft, each offering modern facilities and inspiring learning environments.

1. **Location Main Campus:** Johanna Westerdijkplein 75, 2521 EN The Hague
2. **Location Sportcampus Zuiderpark:** Mr. P. Droogleever Fortuynweg 22, 2533 SR Den Haag
3. **Location Zoetermeer**: Bleiswijkseweg 37, 2712 PB, Zoetermeer
4. **Location Delft:** Rotterdamseweg 137, 2628 AL, Delft

The university has 2,521 employees representing 88 nationalities, all contributing to high-quality education and support for students. With over 100 Bachelor's and Associate Degree programs across seven Faculties, THUAS equips students with the skills, knowledge, and global perspective needed to succeed in today's world.

Diversity and inclusion are at the heart of who we are. With such multinationalism among our students and staff, we are committed to building an inclusive and supportive learning and working environment where everyone feels welcome, valued, and supported. Read more about what we mean by diversity and inclusion here.

The Dutch Educational System

Higher Education in the Netherlands

The vast majority of higher education institutions in the Netherlands are state-funded. There are around 13 traditional 'research' universities, 1 Open University, and 36 Universities of Applied Sciences.

The higher education system in the Netherlands is based on a three-cycle degree system, consisting of a Bachelor's, Master's, and PhD degree. The Netherlands has a binary higher education system. Binary in this context means there are two types of higher education:

- Research-oriented education, typically provided by research universities
- Higher professional education is offered by the Universities of Applied Sciences

Programmes at research universities focus on theoretical aspects of the field of study and prepare students for undertaking independent research. These also lead to a bachelor's or master's degree. At research universities, you can also pursue a PhD degree.

Programmes at universities of applied sciences prepare students for particular professions and tend to be more practically oriented. They lead to either a bachelor's or a master's degree. There are currently 36 Universities of Applied Sciences in the Netherlands, offering a wide variety of high-quality degree programmes in English. Thematic fields include economics, engineering, agro and food, healthcare, art, social studies, and teacher training (for primary education).

Credit and Grading System

Degree programmes and periods of study are quantified in terms of the European Credit Transfer and Accumulation System (ECTS). In this system, 60 credits represent one year of study, and one credit represents 28 hours of study. The focus of the programmes determines both the number of credits required to complete the programme and the type of degree that is awarded.

In the Netherlands, a ten-point system is used in higher education. A grade of 10 is the highest, and 6 is the minimum pass grade.

Grade	meaning	Grade	meaning
10	Outstanding	5	Almost satisfactory
9	Very good	4	Unsatisfactory
8	Good	3	Very unsatisfactory
7	More than satisfactory	2	Poor
6	Satisfactory	1	Very Poor

National Qualification Framework and European Qualifications Framework

The Dutch Higher Education Qualifications Framework is based on the Overarching Frameworks for Qualifications of the European Higher Education Area (QF-EHEA), developed as a part of the Bologna

process. The overarching EQF specifies the specific knowledge, skills, degree of independence and responsibility associated with each of the 8 levels, rather than individual qualifications.

The Dutch Higher Education Qualifications Framework consists of 3 stages:

- bachelor's
- master's
- PhD

These 3 stages correspond with EQF levels 6, 7 and 8. The associate degree corresponds to EQF level 5. More information on the level of Dutch Diplomas to be found on Nuffic's webpage.

Academic Calendar

The first semester runs from late August until late January/early February. The second semester runs from early February until July.

Check our website for the THUAS academic calendar and holiday schedule.

International Office

The International Office can assist you with practical, non-academic related matters. For example, we can help you look into arranging accommodation, registration at the municipality, collecting your residence permit, your health insurance, and answering any questions about working while studying.

Need help?
Our staff are here to help you with any questions about our services.

Location: OV1.10, main campus.
Opening hours: Monday to Friday, 9:00 AM – 4:30 PM
Telephone: +31 (0)70 445 85 85

If you are unable to visit us in person, you can also contact us by e-mail.
Visit our website to get informed about all the topics above

Accommodation *(accommodation@hhs.nl)*
THUAS offers a housing service for first-year international degree students and exchange students. Most exchange students are accommodated through our trusted partner DUWO University Housing, a specialist in student accommodation in the Netherlands.
DUWO offers rooms located close to the THUAS campus, giving students the choice between shared accommodation with fellow THUAS students or a self-contained room. Rental contracts are offered in line with the student's exchange period, either one semester or a full academic year.

Because availability is limited, we recommend submitting your housing application as soon as possible; don't wait until you receive your admission offer to start looking. More detailed information about our housing service, accommodation types, and conditions can be found on our housing page.

Exchange (exchange@hhs.nl)
The exchange department handles all administrative matters for incoming exchange students who come to THUAS for an exchange (for one semester or an entire academic year). The exchange department liaises with partner universities, overseeing nominations and the application process. This department also ensures that exchange students have sufficient health insurance and ensures visa applications for incoming exchange students are processed. The Exchange department also liaises with the Immigration and

Naturalization Service (IND) for this latter purpose. It ensures that those who need to be reported to the Immigration and Naturalization Service (IND) (these are often international students who are already studying here and have a Dutch residence permit, but are going abroad) are also properly registered.

Resources and Services

Whether you are studying in Delft, Zoetermeer, or at one of our campuses in The Hague, there are always lecture rooms, classrooms, workspaces, restaurants, libraries, and sports facilities available to you.

Library

The library has a diverse collection of books, nearly 900 magazines, Dutch and foreign newspapers, and a large collection of graduation essays. There is a digital library which includes (international) databases, e-journals, standards database, E-books, THUAS theses and publications in digital form etc.

The library provides excellent electronic sources of information to students and staff. It is open to students registered at THUAS and to members of staff. It's located on the first floor (entrance/exit, self-service unit for borrowing and returning items, Study Plaza) and ground floor (books, periodicals). Most library services are free of charge.

Study areas

When working on an assignment, preparing for an exam or meeting with other students, you can use a variety of specially designed work and study areas on all of our campuses. You can also log into 'our' wireless network with your laptop, tablet or smartphone. Of course, we also have 'fixed' computer workstations.

Campus Card

THUAS makes use of an electronic purse system for printing, accessing lockers (during exams), and buying food and drinks. You can pick up your Campus Card by presenting valid ID at the IT Front Office of your THUAS campus. Alternatively, during the Introduction Day, we will assist you with its procurement.

To load money onto the card, you need to have a PayPal account or a Dutch bank account. It is not possible to charge it with foreign bank cards unfortunately. Alternatively, you can also pay by European debit cards on university grounds.

IT Front Office

The FZ & IT Front Office provides integrated accommodation, facilities, and IT support across THUAS, striving to deliver the highest service standards. Its mission is to leverage the latest technologies, offer differentiated services and structures, and maintain an international perspective. The team focuses on relieving users of logistical concerns and ensuring a secure physical and digital environment.

The Front Office is happy to assist you with all IT-related questions. You can also borrow audiovisual equipment, for example, if you need to record a video for a class. Through the iFrontOffice self-service portal, you can find manuals and submit service requests. The Front Office can also assist you with any questions regarding your Campus Card.

Language support

For students who want to develop their Dutch language skills, the Taalpunt is available, while the Language Point offers support in English. To access these resources, you must first be registered at THUAS (via Osiris) to gain access to the Student portal (Studentennet in Dutch).

Social Guide

This guide is designed to help you navigate the social landscape of The Netherlands seamlessly. From language essentials to cultural insights, social outings and important information on laws and healthcare,

we've got you covered. Embrace diversity, explore the city's, and make connections that will last a lifetime. It will give some practical and hopefully useful information to survive your time at THUAS. Find it here.

Canteen

Forgot your lunch box? No problem! There are various food providers and vending machines at THUAS. All of our campuses have one or more restaurants where you can buy hot and cold food and drinks. The main campus also has the West 75 café, a coffee corner and a cafeteria with a wide selection of fruit, dairy products, meals, halal dishes and more.

Please note that the university does not accept cash or credit cards. Payments can be made only via the Campus Card or a Dutch (European) Maestro bank card.

There is also a small grocery store outside the main building called "Albert Heijn To Go", which sells a selection of meals and snacks and drinks. There are also various vending machines with drinks and snacks on multiple floors of the university.

Studying with a disability or special circumstances

THUAS offers customized facilities that can help make studying easier for you. At our four locations we take your (im)possibilities into account as much as possible. We can help you as much as possible right from the start of your studies if you let us know. Read more here.

Sports Centre, Gym & Student life

The main campus of THUAS has a Fitness Centre where you can work out and a gym for group classes (yoga, boxing, Zumba, bodypump). In the sportshalls at Zuiderpark campus, you can play various indoor sports (basketball, football, volleyball, badminton). A sports & fitness pass gives you unlimited access to all these studentsports activities. More information here.

The main campus is also home to various sports clubs (rowing, korfball, lacrosse, rugby, tennis, football, volleyball, hockey, basketball, athletics etc.) and organises events, activities, and parties for international students from time to time. The Hague, Delft and Zoetermeer offer lots of different opportunities to make your student days as epic as you want!
Campus Student Life and Sports is located across from the main entrance of THUAS at Johanna Westerdijkplein 66. You can also reach out via email at campus@hhs.nl or follow them on Instagram and to stay up to date with the latest news on communities and associations, events and student sports.

Student counselling and supervision

We have a counselling system in place to help students facing problems that may affect their study results. The student counsellor advises students on all kinds of matters ranging from study grants and housing to other study programmes inside and outside THUAS. They can also help students with any appeals against decisions judged to be unfair or incorrect. The central student counsellor may also be approached when students have more personal problems affecting their studies and to apply for exam facilities in case students need extra exam time, etc.

THUAS also has a student psychologist. Students are confronted with a diverse range of problems: from losing the motivation to continue their studies or suffering from fear of failure to very serious situations such as psychiatric disorders. The psychologist can then provide short term care. The student counsellor will refer you to the student psychologist if deemed necessary.

Any conversations with the faculty staff, counsellors and/or psychologists are strictly confidential. Want to know more? Visit our page for details.

Medical care

Physician / General Practitioner (GP)

In case of illness, you should contact a general practitioner (in Dutch: 'huisarts') first. They are your main link to any specialist or hospital. Most GP's speak English, but it is important to check if they participate in

your health care system. The Hague International Centre can assist you in finding a general practitioner in The Hague. The website contains a wealth of useful information on health, and their staff speak various foreign languages. We recommend you find a GP as soon as you have arrived.

Medical emergencies

- For life threatening situations call: 112 (ambulance, fire department or police department) or visit the emergency room at the nearest hospital.
- If you are not feeling well and your symptoms are not life threatening, you can contact your general practitioner and make an appointment.
- For emergencies after 17.00 hrs and during weekends, you can contact the hadoks (in Dutch: 'huisartsenpost' via telephone number +31 (0) 70 34 69 669.

Payment

Make sure to bring proof of your health insurance to the appointment, otherwise you'll have to pay for the consult directly after you've visited the doctor. A regular consult costs around € 30 - € 50. Blood tests, psychological support e.g. cost a lot more. Do not forget to ask for a receipt, as after your visit you can declare these costs at your insurance company.

Pharmacies

In the Netherlands, you will need a prescription for most medication. With a prescription you can go to a pharmacy (apotheek) to collect your medication. You pay for it when it's ready, and if you have medical insurance, you can usually claim the expenses from the insurer. Certain medicines are available over the counter, either in a pharmacy or at a chemist (drogist). Pharmacies and chemists usually have the same opening hours as shops. There is always a pharmacy open, even on weekends.

Dentists

Dental treatment is not included in a standard medical insurance. If you need a dentist you should make an appointment first. After treatment the bill is usually sent to your address in the Netherlands. The cost of the consultation varies by type. Once again be sure to ask for a receipt in order to receive compensation from your insurance.

Bring along your passport or identity card, insurance papers and your address in The Hague.

Contact information

Faculty IT & Design Team International, SL6.27 ITD-international@hhs.nl
For any question about the IT & Design programs for incoming exchange students and for all practical matters (signing learning agreements, issuing transcripts of records, etc.).

THUAS International Office, OV1.10, exchange@hhs.nl
For any questions on your general application at THUAS, housing service through THUAS, residence permits and visas, health insurance, registration at the municipality, etc.

THUAS Front Office FZ IT, OV1.69 frontoffice@hhs.nl
For IT related questions and issues (such as your Campus card of Wi-Fi login details), borrowing audio/visual equipment

Faculty of IT & Design – Where technology meets creativity

About the Faculty

Are you ready to explore how technology and design shape the world around us? At the Faculty of IT & Design of The Hague University of Applied Sciences, you'll step into an international learning environment in the vibrant city of The Hague, where innovation, creativity and real-world impact come together.

We offer a wide range of programmes in both IT and design, including:

- Communication & Multimedia Design
- ICT
- User Experience Design
- Applied Data Science & Artificial Intelligence
- Applied Computer Science

You can also get inspired by our master's programmes, such as Cyber Security Engineering, Network Systems Engineering (Cyber Security) and AI-Translator.

At our faculty, we believe in creating *"something meaningful that works — for people and for society."* That means combining technology with design to solve real problems in smart and creative ways.

Located in The Hague — the international city of peace and justice — you'll study in a diverse environment with students from all over the world, surrounded by organisations, companies and institutions that operate on a global scale.

Just as important: you'll be part of a **supportive and inclusive community**. We want every student to feel welcome, confident and able to grow. Whether you need academic guidance, personal support or practical facilities, we offer a wide range of services to help you make the most of your experience.

So whether you're designing digital experiences, building smart systems or exploring the future of AI — this is the place where your ideas can come to life.

IT & Design Course offer

Overview

Course code	Course name	ECTS	Semester
ITD-HMVT26-K68	Becoming the next successful online startup	30	Autumn
ITD-HMVT26-K70	European Project Semester	30	Autumn & Spring
ITD-HMVT26-K85	Game Development	30	Autumn & Spring
ITD-MINOR26-K86E	Visual Design & Frontend Development	30	Autumn
ITD-MINOR26-K94	Software Reversing and Exploitation	30	Autumn & Spring
ITD-HMVT26-K96E	Photography in Focus/ Basic Video Production	30	Autumn
ITD-HMVT26-K99E	Innovative Data Visualisation	30	Autumn
ITD-HMVT26-K108	AI for Good	30	Autumn
ITD-HMVT26-K109	Interactive Digital Art	30	Autumn & Spring
UXD-EX	International Semester UXD - User Experience Design Year 1	30	Autumn
UXD-EX	International Semester UXD - User Experience Design Year 2	30	Spring

Course descriptions

Becoming the next successful online startup

ECTS credits	30 ECTS
Code	ITD-HMVT26-K68
Year / Semester / Block / Term	Autumn semester
Campus	Zoetermeer
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Jelle Hijlarides (J.P.Hijlarides@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	None
Course content / outline	**Learn how to build and launch your own startup** Do you have a groundbreaking business idea or want to contribute to one? In this minor, you'll gain the skills, mindset, and cutting-edge tools to turn ideas into successful online startups! Join forces with fellow students as co-founders to create and develop your own startup. Together, you'll tackle the challenges of building a new IT-related business. Understanding customer needs, validating solutions, and refining your business model are key. This program guides you step-by-step, combining interactive lectures with coaching from experienced startup mentors. You'll learn how to leverage AI to rapidly test and validate your assumptions, giving your team a competitive edge. Refine your ideas with feedback from instructors, peers, and customers, and tackle real entrepreneurial challenges. By the end, your team will have a functional prototype, a compelling pitch, and the confidence to launch your online business. The Key Principles of this minor are - Love Your Problem – Deeply understand the challenges before jumping to solutions - Fail Fast to find the Innovation Sweet Spot – Rapid experimentation to refine ideas. Using proven frameworks such as Lean Startup, the Value Proposition Canvas, Business Model Canvas, and Customer Segmentation, you'll explore how to validate ideas efficiently. Through Meso and Macro analyses (DESTEP, Porter's 5 Forces, and Competitor Analysis), you'll gain strategic insights into your market landscape. At the heart of this minor is the Riskiest Assumption Test (RAT) – an essential method to validate business ideas and minimize uncertainty. You'll also develop a Marketing Plan and Financial Plan, ensuring your innovations are not just visionary but also viable.

This minor is hands-on, fast-paced, and designed for students eager to test, iterate, and bring ideas to life.
The student actively uses AI tools to generate, test, and validate assumptions, enabling the team to learn quickly and pivot when necessary.

Course material	No mandatory literature. Recommended literature: - Eric Ries - The Lean Startup - Ash Maurya - Running Lean - Rob Fitzpatrick - Mom test

Assessment methods & criteria

The module has the following tests:

Method	Weight	Test	Resit
Portfolio	75%	Same term wk 1 to 18	Same term wk 19-20
Assessment (oral exam)	25%	Wk 19	Same term wk 20

The grades for each component of the minor must be 4,5 or higher and will contribute to the final grade according to the assigned weight percentages. To successfully complete the minor, the final grade must be 5,5 or higher.

For the retake of each component, the **same requirements** apply as in the initial assessment opportunity.

Learning outcomes

Starting a successful online startup requires a different approach than starting a traditional company. Instead of creating an extensive business plan, you learn how to build your company by continuously improving your concept based on the Build – Measure – Lean strategy. How?

- Analyse the market, their team and their idea, and make substantiated assumptions about their primary target group.
- Apply research skills to continuously measure whether an idea adds value from the perspective of the primary target group.
- Manage a startup project by building a team, dividing roles and work, and organising the process using Lean Startup principles.
- Pitch their startup concept convincingly in English to a professional jury.
- Co-create effectively in small, multidisciplinary teams, ensuring that effort and investments are distributed fairly
- Apply the Build–Measure–Learn cycle to validate assumptions, learn from feedback and make informed pivots.
- Transform an idea into a concrete (online) product or service (MVP) with market potential using Lean Startup and the Business Model Canvas.
- Develop an IT-related product or service in multidisciplinary teams that connects technology, creativity and business.

Planned learning activities and teaching methods

Teaching methods and average study load per week (40 hours)

- Physical class (Lecture & Peer review)
- Coaching
- Self-study
- Group project (Research and Development)

European Project Semester

ECTS credits	30 ECTS
Code	ITD-HMVT26-K70
Year / Semester / Block / Term	Autumn & Spring Semester (same course is offered twice per academic year)
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Molood Aleebrahimdehkordi (M.Aleebrahimdehkordi@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	Passed the first two years of a bachelor programme.
Course content / outline	**Interdisciplinary course** The problems we are facing today are complex and constantly changing. Strong disciplinary knowledge does not suffice to solve these problems; we need professionals who are prepared to look at problems from different perspectives and who have learned to collaborate with professionals from other disciplines. The European Project Semester (EPS) is crafted to prepare students with all the necessary skills to face the challenges of today's world economy. Students work in an international and intercultural team of 3-8 members on a project for an external client. Assignments are usually broad, so there is room for creativity and the involvement of different disciplines. Courses involved are Design thinking, Doing research, Scrum, Intercultural communication and Academic English. Students learn take responsibility for their learning and project work and you develop your intercultural competences, communication skills and interpersonal skills. - Intercultural communication (15%) - Research (10%) - English (15%) - Project (60%)
Course material	Bring your own laptop. Other tools and literature will be provided.
Assessment methods & criteria	*Group and individual assessments*

Testform	Percentage	Week	Retry
Report (Research)	10%	8	19-20
Portfolio (IC)	15%	10	19-20

Report (English)	15%	8	19-20
Assessment (project)	60%	18	19-20

Requirements: All exams must be at least 4,5; The total average must be at least 5,5.

Learning outcomes	In this minor, you will learn the following: • apply your own disciplinary knowledge to the project • collaborate effectively in multidisciplinary project by respecting and giving values to the input of people from other disciplines • develop an innovative solution for a dedicated project by combining relevant disciplinary knowledge from different group members (including his/her own) • bridge cultural differences in order to carry out a project successfully • use Scrum appropriately to develop interdisciplinary and intercultural project • conduct research and reflect the results in a structural research report in English • demonstrate the progress in three selected 21st century skills by developing a portfolio • improve your business English and presentation skills.
Planned learning activities and teaching methods	Workshops and project work

Game Development

ECTS credits	30 ECTS
Code	ITD-HMVT26-K85
Year / Semester / Block / Term	Autumn & Spring Semester (same course is offered twice per academic year)
Campus	Zoetermeer
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Mathijs Koning (gamedevelopment@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	No formal requirements, however, students may be limited in their choices if they don't have a technical background.
Course content / outline	Have you always dreamed of developing your own game? Did you ever wonder how the game you played was built? Or are you intrigued with items like concept art and storytelling? In this minor, you will be part of a (bigger) multidisciplinary team developing your own game. You will gain experience in collaborating with people from different disciplines and are encouraged to enrich your way of thinking in the game development domain. You are free (within certain constraints) to come up with a proposal and a so-called game design document (GGD), for a game. This proposal will be assessed on complexity and feasibility. Your project team consists of members from different disciplines: engineers, designers, artists. It is important that everybody has the possibility to develop themselves. During the development of the game, you will be rewarded with achievements by accomplishing milestones (continuous assessment of knowledge and skills). At the end of the minor, the project will be presented at a conference where all interested people and companies involved are invited. This minor could interest students from different programs within The Hague University. By offering you to apply for different roles (profiles) the course is especially suitable for HBO-ICT and CMD. Also, students of other programs can join, but are maybe limited to the role they can choose (see admission requirements).
Course material	The lecturers provide materials through the Brightspace course of the minor. It is, however, important to note that using a 3D Game Engine or 3D modeling software can be resource-heavy, so we recommend having a decent laptop available that can run this kind of software. There is no required literature students are expected to purchase, but students are expected to create and purchase marketing materials (t-shirt, stickers) for the expo at the end of the course.

Assessment methods & criteria	There will be no written tests in this game development course! But there are assignments to make per class. Individual portfolio of achievements 50% or your grade will be determined by the number of achievements you'll earn during the course. You will be granted achievements by attending lessons and by finishing individual assignments. There are even bonus achievements that are hidden so you don't know beforehand how to get them! Silver achievements are granted by attending all lectures of a track. Each track offers two gold achievements in the form of individual assignments. Each track also offers two platinum achievements, which are individual assignments of a higher skill level that have more impact on your final grade. In order to complete the WHOLE semester, you need at least eight Gold achievements (to get a 6 as a grade). If you also get eight Platinum achievements, then your final grade for the achievements is a 10. Making a game The other 50% of the grade will be determined by your group project and your individual contribution to that project. The project will be graded by the lecturers of the minor: each of them focusing on their own area of expertise.
Learning outcomes	In this minor, you will work in a group consisting of eight students, which requires some group management skills. Additionally, every student chooses classes to focus on a specific role(s) they will fulfill within the group. It is mandatory to attend at least four different classes, but all classes are scheduled in a way you could attend all of them. Below you'll find the different roles and some examples of their responsibilities. **Game Producer** Responsible for managing the group, organizing the EXPO, possible product owner. **Game Designer** Design the experience the game tries to achieve for its players through its core mechanics. Main contributor to the Game Design Document (GDD). **Level Designer** Create beautiful levels, tell a story in each level and invent puzzles. **Sound Designer** Make the game feel alive and keep your players' heads banging by designing sound effects and background music. **Storyteller** Use the game to engage the player in an intriguing story. **Concept Artist** Convey your ideas for use in video games before it is put into the final product. Combine traditional techniques with modern day technology and learn about different stages in the design stadium like sketching, inking and rendering. **Game Programmer** Code the game mechanics and the main gameplay loop, communicate with the engine code, unit test mechanics. **Artificial Intelligence Programmer**

	Code the A.I. your players battle against without making the game an impossible challenge. **Graphics Programmer** Optimize code to achieve high frame rates and create custom tools, rewrite some core engine mechanics, make the game look good with custom shaders and effects. **3D modelling** Create 3D models using meshes and textures and everything in between. The roles the student chooses have influence on the classes/lessons to follow. You must choose at least four classes. BUT we do plan all classes in such a way that the schedule makes it possible to attend all classes, even those that are not mandatory for your chosen classes/roles.
Planned learning activities and teaching methods	The course uses different didactical approaches. The project, in which you create your own game (as a group) is the most dominant part. Next to that we offer a theoretical basis in the form of lectures and workshops. Other approaches that are used are: student feedback sessions (guided by lecturers) and presentation sessions (in which students present their (intermediate) results). The total of the study load is 30 credits. The grade is calculated with a weighted average between the project part and the track part (lectures, self-study, company visit).

Visual Design and Frontend Development

ECTS credits	30 ECTS
Code	ITD-MINOR26-K86E
Year / Semester / Block / Term	Autumn Semester
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	William Beekhuis (W.Beekhuis@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	None
Course content / outline	Visual Design & Frontend Development are specializations within the professional practice of Communication and Multimedia Design (CMD). In this field, novice professionals are often assigned tasks beyond their current knowledge or skill set, and the company expects the employee to solve it independently. In this minor, the student learns how to approach such tasks, gaining in-depth knowledge and skills simultaneously. Throughout the minor, students work on assignments within self-selected themes during four separate blocks. The learning methods include guidance sessions and masterclasses on substantive topics. An important component of the minor is providing and receiving feedback on realized products. The feedback is formative and focused on improving the learning process but is clear in the form of a grade per product so that you know where you stand and what you can still improve. In the final block, you collaborate on a group portfolio. The minor consists of 30 credits (a half year) and focuses on deepening knowledge and skills in the field of Visual Design and/or Frontend Development, as well as developing learning skills outside regular education. Within the minor, you decide what you want to learn and explore how to best achieve it. You work on Visual Design or Frontend Development assignments that require new knowledge and skills. Teachers are available to assist you, provide feedback on your work, and guide you along the way.
Course material	LinkedIn Learning account (provided by the program)
Assessment methods & criteria	The minor is divided into four 'blocks,' each of which must be concluded with a passing grade (5.5 or higher). The final grade is the average of these four grades. In each block, the student, using a portfolio and a final product (form = free), demonstrates how they have structured their learning process and achieved the learning objectives.
Learning outcomes	Competencies:

	Visualizing and Prototyping – knowledge and skill level above the basic level of the major Reflecting Learning Ability Learning objectives: Student can set goals for personal development Student can take control of their own learning process. Supplemented with the learning objectives that you set yourself.
Planned learning activities and teaching methods	We expect students to dedicate 40 hours per week to the minor. Throughout the week, there are studio hours (2,5 hours) where teachers and experts are present for feedback and guidance. In addition, there is an opportunity to contact the teachers outside of the studio hours.

Software Reversing and Exploitation

ECTS credits	30 ECTS
Code	ITD-MINOR26-K94
Year / Semester / Block / Term	Autumn & Spring Semester (same course is offered twice per academic year)
Campus	Delft
Duration	20 weeks
Mode of delivery	Hybrid lectures
Lecturer(s)	Mike Gilhespy (M.D.Gilhespy@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	This course is for students who are near the end of their bachelor education. Background knowledge in reading and writing software is preferred and students should expect a steep learning curve in analysing C code and Assembly language at the beginning of the course.
Course content / outline	Given the increased dependency on software in our lives and the ever-present misuse of security vulnerabilities in software by cyber attacks, this course's aims to provide a deep dive into the field of reverse engineering software to find and exploit security vulnerabilities. Students will review key research papers from the history of binary analysis and (automated) vulnerability discovery, up to the current state-of-the-art. The instructors of this course have a strong belief in learning by using a hands-on approach. Students will be provided with technical challenges to solve via online Capture the Flag education, during which students will evaluate tools and techniques actively used in the field. Students will also be provided with the opportunity to spend time on an individual learning track preparing for, or enroll in, a relevant (certification) program: OSCP/OSCE or pwn.college. In order to properly fix security vulnerabilities in applications, a good understanding is required on how the application's software works internally and how software interacts with its computer operating system. Students will be provided a deep dive into the theoretical background and will review key research papers from the history of binary analysis and (automated) vulnerability discovery, up to the current state-of-the-art. The instructors of this course have a strong belief in learning by using a hands-on approach. Students will be provided with technical challenges to solve via online Capture the Flag education, during which Students will evaluate tools and techniques actively used in the field. Students will also be provided with the opportunity to either choose to spend time on an individual learning track preparing for, or enroll in, a relevant (certification) program: OSCP/OSCE or pwn.college. They may also choose to spend time on a group project to work together in answering a course related research question. This course will be assessed via presentations and portfolio assignments in which students are required to

	provide write-ups on their approach and explain why related theory is important for their learning.
Course material	Bring your own laptop (minimum 8GB RAM).
Assessment methods & criteria	(1) Presentation, participation and lab assignments minimum pass rate: satisfactory (2) Portfolio on write-ups (50%), minimum pass rate: 4.5 (3) Portfolio on learning track or project (50%), minimum pass rate: 4.5 Minimum pass rate course: 5.5 Assessment (1) will be throughout the course, based on the planning of the presentations. Assessment (2) and (3) will be at the end of the course.
Learning outcomes	Given the increased dependency on software in our lives and the ever-present misuse of security vulnerabilities in software by cyber attacks, this course's aims to provide a deep dive into the field of reverse engineering software to find and exploit security vulnerabilities. The main focus of this course will be on binary analysis under both the Windows and Linux operating systems. Students will be trained on viewing security issues from an attacker's perspective to better understand what needs to be fixed and how.
Planned learning activities and teaching methods	Hybrid lectures, lab assignments and personal project.

Photography in Focus/Basic Video Production

ECTS credits	30 ECTS
Code	ITD-HMVT26-K96E
Year / Semester / Block / Term	Autumn Semester
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Denise van Doorn (D.vanDoorn@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	The student is required to have certain hardware and software (see under Course material).
Course content / outline	This minor offers an introduction to the world of visual communication, specifically the creation and processing of images; both still and moving. Learning ‘to see’ is key. The aim of this minor is that this leads to the production of meaningful images; images that shape the ideas of the maker. To achieve this, knowledge of photographic and film technique is necessary. This (basic) technique is discussed extensively in the minor. In addition to this practical knowledge, the minor focuses on photography from a historical and theoretical perspective. After completing the minor, the student can independently communicate a message or short story effectively by means of images, supported by audio. This minor consists of two parts: Photography and Videography. **Photography** This part of the minor is built around five practical and three theoretical assignments. Based on these assignments, the student investigates possibilities from a specific photographic angle. • In 'Texture and Rhythm' the focus is on the interaction between light, depth of field and camera angle. • 'Styling' is about designing an advertisement or film still. • The assignment 'Light' explores how to create shapes and compositions with light and the naked human body. • In 'Time' refers to making a series of images that have an action or change as a starting point. • With 'Fascination', the student can design his own project. In the classes, the photographic technique, which is necessary to make the assignments, is discussed. In addition to this transfer of practical knowledge, progress in the execution of the assignments is made visible in a digital portfolio on Google Drive. Finally, the student presents all the practical assignments in the form of a photo book.

	The 'theory' lectures provide the student with the basic knowledge to get started with the assignments. The student learns to recognize and describe different genres, such as documentary photography and advertising photography, and develops an understanding of the historical development of photography. **Videography** This part of the minor focuses primarily on making video. Theory lessons support the creation of the videos. In theory classes, a variety of narrative forms in documentaries and interviews and the various story structures (chronological, use of flashbacks) are discussed. Attention is also paid to a number of important technical aspects such as light, frequencies, audio formats, codecs, resolution and frame rates, quit claims and copyright on images and music.
Course material	Laptop, SSD and software: The student must have a powerful laptop with a properly working version of Adobe CC (at least Lightroom Classic, Photoshop, InDesign and Premiere Pro). Furthermore, the laptop must have at least 100GB of free space and an external SSD of 500GB. Camera: a digital SLR or mirrorless camera that can make Full HD video recordings, preferably with an external microphone. Tripod: A sturdy tripod that reaches at least chest height.
Assessment methods & criteria	The student has completed the minor and is entitled to 30 credits if both parts of the minor have been completed satisfactorily. The assessment is divided into: **A. Photography** - 1. Practice (37% - minimum requirement 5.5) In week 8 it will be determined whether the student has passed or failed the digital elaboration of the practical assignments. If the assessment is satisfactory, the student can participate in the oral assessment in week 10. During this assessment, the student presents the assignments in a photo book. The mark is determined after the assessment by the practical teacher in consultation with the theory teacher. - 2. Theory (13%) The theory mark is determined on the basis of the average of the theory test (week 5) and the photo analysis during the assessment. Planning review Photography: Theory test: week 5 (Resit in week 20). Assessment: week 10 (Resit in week 20). **B. Videography (50%)** This part of the minor has three formative tests and an assessment. The student provides a final product for the assessment. The final mark is determined after the assessment, on the condition that all partial tests have been handed in and passed. Planning review Videography: Delivery partial tests weeks 13, 14 and 16. Assessment: week 20 (Resit in week +10)
Learning outcomes	The following 4 competences are central to this minor.

- Creative ability: the student develops the ability to produce solutions from various perspectives in the creation of still and moving images.
- Capacity for critical reflection: the student can evaluate their own work and that of others.
- Organizational ability: the student is able to organize internal and external factors for an effective and inspiring work and research process
- Communicative ability: the student is able to present and justify their own work and development.

These competences are practised in the various components and phases of the minor and are translated into the following learning objectives:

- The student can translate an idea into a photographic image.
- The student can effectively use different photographic (basic) techniques.
- The student is aware of historical developments in photography and can analyze and comment on them.
- The student can show their vision on contemporary expressions of photography or visual arts.
- The student is able to execute image editing programs at a basic level; Apply Photoshop, InDesign, Lightroom and Premiere Pro in their work process.
- The student can reflect orally and in writing on their development process.
- The student is able to recognize different narrative forms.
- The student can edit both image and sound in an editing program.
- The student recognizes and uses different interview techniques.
- The student knows the basic principles of visual language and knows how to apply these correctly in their own photo/video production.
- The student can independently design and shape a video project. They choose the appropriate story form and techniques.
- The student is able to complete assignments in time that meet the set substantive and formal criteria (photo book and video clips with a specified minimum size and format).

Planned learning activities and teaching methods	Work forms: (Based on Blended Learning principles). Classroom instruction, group work, workshops, online consultation and homework assignments. Weekly 2 lectures and 1 workshop in the schedule.

Innovative Data Visualisation

ECTS credits	30 ECTS
Code	ITD-HMVT26-K99E
Year / Semester / Block / Term	Autumn Semester
Campus	Zoetermeer
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Klaas Jan Mollema (K.J.Mollema@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	None
Course content / outline	Are you a driven HBO student who has always wanted to understand how cutting-edge technologies are transforming the world of data visualization and dashboard design? Every field encounters situations in which large amounts of data need to be processed and made understandable to end users. This is often done using graphs, infographics or dashboards. The deployment of new technology (GEOdata, 3D/AR/VR, digital twins, etc.) can make these visualizations more powerful and understandable. In this multidisciplinary minor, where IT students collaborate with students from other disciplines, you share your knowledge of your field to create innovative visualizations. The minor Innovative Data Visualization (IDV) explores the added value that arises when state-of-the-art technologies are used for data visualization and dashboard design: - Data Quality in the Spotlight: We start by examining the core - the quality of the data. Learn how to lay the foundation for innovative data visualizations by ensuring the reliability and usability of data. - Unlock Predictive Insights: Go beyond a first look at the data and learn how to analyze data to make valuable predictions. We encourage you to develop innovative methods to enrich and supplement data as needed. - Design Thinking in Action: Discover the power of the Design Thinking method as you explore the most appropriate way to visualize data. Learn how to make information understandable and engaging for users. Experiment with Geodata, 3D/VR/AR, and digital twins. - Bring Your Vision to Life: With the knowledge you have gained, realize your innovative data visualization on the platform of your choice. Document your journey in a scientific paper and present your creation to clients.

But that's not all! At IDV, we work in an inspiring learning community where students, teachers, and industry professionals come together to learn, explore, and innovate. You work with your project group on real assignments from industry clients. During classroom sessions, you share knowledge, experiences, and tips with your fellow students.

DATA : Collecting Data, analysing and pre-processing data (ETL); Data-quality; Basic statistical knowledge / data-analytics techniques; Big data and predictive analytics; Python programming

Data USER EXPERIENCE DESIGN: Data visualization; Dashboard design; Geographical data; Digital Twin

TOOLS: PowerBI of Tableau; Elastic; 3D/AR/VR/XR data visualisation Open Data (Unity); Leflet.js (GEO-data)

ORGANIZATION: Government(alData); Open data

RESEARCH SKILLS: Design Thinking Method; Main and Sub-questions; Design Research: Investigating through Doing

Course material

Students need a laptop to access course materials and work on research projects. Course materials are available at no cost.

- In order to get up to speed with Python scripting students use -free of charge - online materials such as Datacamp or Youtube-tutorials.
- Several in depth articles will be provided on the digital learning environment.
- Inspirational books about the design thinking method and usefull research activities will be available on the physical class days
    - Aan de slag met Design Thinking / Eveline van Zeeland
    - The design thinking toolbox / Michael Lewrick
    - Design. Think. Make. Break. Repeat. / Martin Tomitsch

Assessment methods & criteria

Assessment form	Percentage	Week	Retake
Individual assignment	25% (>= 5,5)	Wk 13-17	Wk 19-20
Portfolio (group)	50% (>= 4,5)	Wk 18-19	Wk 19-20
Assessment (group)	25% (>= 4,5)	Wk 18-19	Wk 19-20

The grades for each component of the minor must be 4,5 or higher and will contribute to the final grade according to the assigned weight percentages. To successfully complete the minor, the final grade must be 5,5 or higher.

For the retake of each component, the **same requirements** apply as in the initial assessment opportunity.

Learning outcomes

Students learn how to transform a complex amount of information into an innovative visualization that adds value to the workflow of end users at the client.

- Students can determine the underlying question of the client through design thinking.
- Students can connect different data sources and make them collaborate with each other.

- Students can intelligently supplement and enrich data (quality).
- Students can apply elementary data techniques regarding making data understandable and predicting data developments.
- Students can, based on research into innovative visualizations and the preferences of end users, create an innovative visual product that adds value for the stakeholders.
- Students are aware of ethical and legal aspects related to data and know how to apply them correctly in their final product.

Keywords: Analyzing problem domain & formulating problem statement; Gathering, analyzing & processing information; Conducting research; Critical, investigative & methodical work; Effective communication.

Planned learning activities and teaching methods	Teaching methods and average study load per week (40 hours): Physical Class 12 hours a week Online class 4 hours a week Presentations 1 hour a week Self-studie 4 hours a week Group project 19 hours a week During the project we do research using the Design Thinking Method.

AI For Good

ECTS credits	30 ECTS
Code	ITD-HMVT26-K108
Year / Semester / Block / Term	Autumn Semester
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Bob Tuynman (B.A.Tuynman@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	Students must have completed the first two years of their major.
Course content / outline	**Help build a better world with AI** Do you want to discover how artificial intelligence can change the world for the better? In the *AI for Good* minor, you will work with the power of AI to tackle social issues. This minor offers you the opportunity to explore AI technology, investigate ethical dilemmas and develop your own AI solution to a problem that you consider important. During this semester, you will not only learn the technical basics of AI, but also how to use AI for sustainability, inclusivity, and social equality. In collaboration with fellow students and experts from the field, you will create a working prototype. Expect a mix of theory, practical assignments and creative experimentation with tools such as generative AI. Whether you have a technical background or not, this minor challenges you to think innovatively and ethically, and thus make a difference with AI. Join us and let your creativity and AI come together for a good cause!
Course material	No compulsory reading. Please note that depending on the tools you choose for your project, you may need either a powerful laptop to run AI models locally or a paid subscription to cloud-based AI services. Be prepared that some personal costs may occur based on these needs.
Assessment methods & criteria	- Working prototype (groupwork) (70%) - Individual portfolio (30%) Minimum requirement to pass minor: 5,5. Each grade should at least be a 4,5. Assessment schedule (per sub-test): - Working Prototype (70%): week 18 (retake week 20) - Individual portfolio (30%): week 18 (retake week 20)

Learning outcomes	At the end of the programme the student is able to - Apply AI to contribute to the UN Sustainable Development Goals. - Assess the ethical and social impact of your AI project. - Make a thorough problem analysis in which Design Thinking principles are applied. - Gather domain knowledge and apply it in the context of an AI project. - Develop an AI product.
Planned learning activities and teaching methods	**Teaching methods:** Workshops, project work, group coaching and guest speakers. • Workshops / guest speakers: 17 * 7 = 68 • Project days: 17 * 16 = 272 • Coaching: 17 * 1 = 17 • Independent (group) work: 483

Interactive Digital Art

ECTS credits	30 ECTS
Code	ITD-HMVT26-K109
Year / Semester / Block / Term	Autumn & Spring Semester (same course is offered twice per academic year)
Campus	Zoetermeer
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Klaas Jan Mollema (K.J.Mollema@hhs.nl)
Language of instruction	English
Type	Undergraduate
Entry requirements	None
Course content / outline	**Unleash Your Creativity with the Minor Interactive Digital Art (IDA)** Are you passionate about digital media, art, and storytelling? Do you want to create interactive experiences that respond to today's societal challenges? The Minor Interactive Digital Art (IDA) is your chance to push creative boundaries and bring art to life through technology! Minor Interactive Digital Art (IDA) explores how digital media can be used in an interactive and artistic way to respond to society. This minorprogram explores how digital media can be used in an interactive and artistic way to engage audiences. You will dive into various artistic disciplines, including: 🎨 Visual arts; 🎬 Film; 🎧 Music; 📜 Art history; 💻 Digital art During the minor, you will design and develop an interactive digital installation that responds to a relevant social theme. You'll work in a multidisciplinary team, applying a structured Design Thinking approach—from concept development to low-fi prototyping and testing—leading to a final exhibition where your work takes center stage. This minor is perfect for students who love thinking outside the box and want to develop creative problem-solving skills. Whether you're a designer, programmer, filmmaker, musician, or simply curious about digital art, your unique perspective will contribute to an innovative, meaningful installation.
Course material	Students are required to have a laptop for accessing course materials and working on research projects. All course materials are provided free of charge. *Materials for the installation* Some materials will be made available in consultation with the instructors. Other material costs, estimated at approximately €50, are the responsibility of the student.

Excursions
There may be additional costs for excursions.

Assessment methods & criteria	**Assessment, Individual/Group, Weighting, Planning, and Minimum Requirements** The assessment for the minor consists of three components: ***Assignment** *Individual* *25*% Weeks 13-17 retake weeks 19-20 ***Portfolio** *Group* *5*0% Week 18-19 retake week 19-20 ***Exhibited Interactive Digital Installation** *Group* *25*% Week 18-19 retake Week 19-20 The grades for each component of the minor must be 4.5 or higher and will contribute to the final grade according to the assigned weight percentages. To successfully complete the minor, the final grade must be 5.5 or higher. For the resit of each component, the **same requirements** apply as in the initial assessment opportunity.
Learning outcomes	**Learning Outcome 1 (Assignment | Individual)** You are able to extrapolate the provided theory to your own interests and societal relevance, enabling you to identify a topic and effectively present it to others. This can be done in the form of a lecture, workshop, poster, or other formats, and shared with fellow participants of the minor, instructors, and possibly professionals from the relevant field. Learning Objectives: • The student analyzes the material already covered and identifies a complementary topic. • The student selects an appropriate format for conveying knowledge about the chosen topic. **Learning Outcome 2 (Portfolio | Group)** You will research societal events or behaviors and develop an interactive digital installation that responds to them. Throughout the process, you will maintain a portfolio and write a paper that documents the stages of concept development, prototyping, production, testing, and an evaluation of the installation's effectiveness. Learning Objectives: • The student applies a methodical approach to creating an interactive digital installation. • The student documents the process of concept development. • The student thoroughly tests their product and refines it based on findings. • The student investigates whether the interactive digital installation effectively elicits interaction or response from the audience. • The student writes a (scientific) summary paper that substantiates the process, outcomes, and results. The paper objectively evaluates the audience's response to the installation and how it aligns with the intended effect.

Learning Outcome 3 (Exhibited Interactive Digital Installation | Group)
You will create an interactive digital installation that demonstrates a cohesive integration of concept, technical execution, and artistic quality. The installation will invite the audience to engage in meaningful interaction during an exhibition.

Learning Objectives:

- The student produces a fully functional interactive digital installation.

The student successfully exhibits the interactive digital installation.

Planned learning activities and teaching methods	**Teaching Methods and Weekly Study Load** The teaching methods and study load vary throughout the semester: First Ten Weeks: • Lectures: 8 hours • Guest Lectures: 4 hours • Workshops: 4 hours • Research Project: 26 hours Second Ten Weeks: • Project Supervision: 4 hours • Presentations: 4 hours • Guest Lectures: 4 hours Research Project: 30 hours

International Semester UXD: User Experience Design Year 1

ECTS credits	Total of 30 ECTS
Code	The semester consists of the modules listed under “Course content/outline”
Year / Semester / Block / Term	Autumn Semester
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Ruud Brok (R.J.F.Brok@hhs.nl)
Language of instruction	English
Type	Undergraduate (first year courses)
Entry requirements	None, but English level C1 is recommended
Course content / outline	**UXD-RD-25 Research for Design (5 ECTS)** UX designers are investigative designers. To have your curiosity effectively spark your inspiration and to make founded choices in your design processes you need to build an understanding of research and to develop your research skills. On this course, you learn basics of ethnographic observation and interview methods that aim at gaining empathy towards the people you are designing for. **UXD-SC-25 Design in a Connected World (3 ECTS)** The course focuses on fundamental professional skills, such as intercultural sensitivity, communication, and working in groups. You will construct an intercultural portfolio. Under this course, you will also participate in a community-building field trip. **UXD-IUX-1-16 Introduction to User Experience (3 ECTS)** You will gain insight into what User Experience is and what factors to take into account when creating a great User Experience. When defining User Experience, people tend to talk about three aspects: what experience is, the quality of the experience and the design of experience. We find it important to define and teach all three. On this course, you will create a frame of reference on UX and its terminology and make a product review video. **UXD-DC-20 Design and Creativity (3 ECTS)** Creativity is a crucial ingredient of design. On this course, you learn about your own creativity and you are trained to further develop your creativity. Sketching is an important skill to enhance creativity and to cooperate with others in design processes. On this course you familiarize yourself with design skills such as exploring solution spaces and generating ideas in visual ways. You learn about design processes (iteration, diverge/converge), and you practice various related skills for ideation. You will try out different creative techniques and you will experiment with different visual techniques.

UXD-BTP-22 Building and Testing Prototypes (5 ECTS)

The course Building & Testing Prototypes focuses on becoming familiar with a variety of prototyping techniques on the one hand, and a selection of testing and evaluation methods on the other hand. You will do this by completing a series of short assignments, spread over 4 design challenges. For each assignment you will have to build a simple prototype using different prototyping techniques each time. After this, your prototypes have to be tested using a variety of testing and evaluation methods. You need to prepare and execute a small test cycle, collect results and interpret them.

UXD-P1-25 Project Bespoke Design (6 ECTS)

Bespoke: made specially, according to the needs of an individual customer (Oxford Advanced Learner's Dictionary). When we talk about Bespoke Design we mean design that fits the needs, personality, lifestyle, and context of a user, and using empathy to understand what this user wants and needs. This is the first of three projects in the first year. Designing for one particular user with a specific cultural background, will give you an understanding of how people experience things and how technology can play a role in people's daily lives. It will also allow you to go through all phases of the Design Thinking process using the knowledge gained in previous courses.

UXD-PW-25 Publishing for Web (5 ECTS)

In Publishing for Web, we are introducing the interrelation of designing User Interfaces and basic programming skills in HTML & CSS. In this course, you will explore the concept of User Interface design from various angles, both conventional and non-conformist frameworks. By learning the basics of web design and exploring visual possibilities, you will create a hand-made webzine. The webzine is a web browser-based publication that contains mediums such as text, images, videos, sounds, etc. 'Zine' refers to a magazine, usually produced by amateurs, for fans of a particular topic, group, or form of entertainment. The content of the zine can be personal, short story, material, sentimental, etc.

Course material	Bring your own laptop. It is required to obtain the license for Adobe Creative Cloud. Required books: - Hannington, B., Martin, B., *Universal Methods of Design, Expanded and Revised: 125 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions (Rockport Universal).* ISBN: 978-1631597480. Other tools and literature will be provided.

Assessment methods & criteria

UXD-RD-25	Assignment, week 9
UXD-SC-25	Assessment, week 7
UXD-IUX-1-16	Assessment, week 8
UXD-DC-20	Assignment, week 7
UXD-BTP-22	Portfolio, week 17
UXD-P1-25	Portfolio + assessment, week 18+19
UXD-PW-25	Assignment, week 18

Learning outcomes — The student:

- Understands different facets of UXD and is able to explain and assess the user experience of a digital product using UX terminology.
- Is able to conduct a creactive design process using the design thinking methodology.
- Demonstrates curiosity, creativity, and bravery in design work and communcation.
- Is able to reflect on the impact of design on the intended user(s). Demonstrates self-expressivity and professional attitude.

There are more detailed learning outcomes per course module, which will be published in the corresponding study guides.

Planned learning activities and teaching methods	Mixed methods, varies per course.

International Semester UXD: User Experience Design Year 2

ECTS credits	Total of 30 ECTS
Code	The semester consists of the modules listed under “Course content/outline”.
Year / Semester / Block / Term	Spring Semester
Campus	The Hague (main campus)
Duration	20 weeks
Mode of delivery	Face-to-face
Lecturer(s)	Ruud Brok (R.J.F.Brok@hhs.nl)
Language of instruction	English
Type	Undergraduate (2nd year courses)
Entry requirements	None, but English level C1 is recommended
Course content / outline	**UXD-HCI-25 (6 ECTS)** In this course you learn to research and use Human Computer Interaction Technologies to come up with interactive concepts. In this course, not the user, but the technology is the starting point. You will research new interactive technologies and technological applications, such as mixed, augmented and virtual reality, wearables, artificial creatures, and playful interaction. These technologies play a major role in the development of physical computing, virtual worlds, intelligent machines, and other innovative applications. You will research, tinker, experiment and create. Together we will explore the exciting new possibilities of Human Computer Interaction Technologies. **UXD-PS1-1-17 Project Studio (12 ECTS)** In this module students explore user experience design beyond single-user interfaces. Within the theme of "shared spaces" students will gain knowledge on where people and technology intersect and interact in confined public- and private spaces. Inspired by this knowledge and their own research they will design for an interactive space. This course covers the following topics: • Private and public spaces as an interactive, social environment • Private and public spaces as an interactive, commercial environment • Private and public spaces as an interface • Technology for spaces • The internet of things • Data flows and data visualisation for shared spaces • Service design; interacting with a system through multiple touchpoints **UXD-RTB-24 Research Toolbox (3 ECTS)** Designers must know how to choose and use the right research tools and methods. They develop their individual ‘toolbox’: a range of practical and conceptual tools, shaped by personal preference, by the type of projects they encounter, by company contexts, and by current developments in the field. They often need to adopt new methods (e.g. with new technologies, with new theoretical insights) and to adapt methods to fit with specific, often unexpected

situations. In this course you will encounter a variety of research methods and experiment with a couple of them. You will combine methods to come up with research plans for different kind of projects and situations.

UXD-UXB-25 UX in Business (3 ECTS)

Designers operate in a constantly changing world. To prepare them for this, they must not only learn design, but also get to know the world around them. Different organisation types they work in and how that will affect their work. Team structures and project methods and how they play a major role. And the business models that drive these organisations. In this course you will set up your own company in group and come up with an innovative idea. Not only designing it, but making a business model for it. Further more you will learn about what it is to be a designer in the 'real world'.

UXD-XLA-1-17 Experience Lab a (6 ECTS)

In Experience Lab, students specialize and craft a personal profile as a designer by gaining experience working with a plethora of clients / stakeholders. The Experience Lab provides room for students to experiment, take risks and fail. Experience Lab also provides students with opportunities to excel and build on their strengths. The Experience Lab is not about creating a showcase, but about drawing learnings from experiences. Based on these experiences, students will be able to articulate what kind of UX designers they are. The course changes each year to stay up to date with developments in the field. See the latest study guide for course setup and assessment criteria.

Course material	Bring your own laptop. It is required to obtain the license for Adobe Creative Cloud. Required books: - Hanington, B., Martin, B., Universal Methods of Design, Expanded and Revised: 125 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions (Rockport Universal. ISBN: 978-1631597480. Other tools and literature will be provided.
Assessment methods & criteria	

UXD-HCI	Individual portfolio
UXD-PS1	assessment
UXD-RTB	Oral exam
UXD-UXB	Assignment (pitch) and written exam
UXD-XLA	Individual portfolio

Learning outcomes	-
Planned learning activities and teaching methods	Mixed methods, varies per course.