Academic Guide Exchange 2022-2023

Faculty of IT & Design

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THE HAGUE
UNIVERSITY OF
APPLIED SCIENCES

Academic Guide Exchange 2022-2023

Faculty of IT & Design

Author
Group exchange IT & Design

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Inhoud

About the Faculty of IT & Design

About the Faculty of IT & Design ICT and digital developments form an important part of our society. Computers are used in every area of everyday life and that starts as soon as you wake up in the morning: you read all your messages on your mobile phone and check what you have to do that day. And when travelling with public transport, you check in using your chipcard. The future of our society is intertwined with the development of ICT technologies and digital design. The Hague University of Applied sciences offers a wide range of opportunities to follow courses which eventually contribute to a bright future. Whether at school or at work, practically everything has become computerised.

In this leaflet you will find information about a variety of courses taught in English at the Faculty of IT & Design. The Faculty offers courses in English in the following fields of interest.

Communication & Multimedia Design (CMD)

CMD is a comprehensive, topical and interesting degree programme in the field of design that offers a unique combination of interaction design, visual design, ICT, media and communication. We focus on the process of Look & Listen, Create Concepts, Design Details and Realise and train our students to become interaction designers. An interaction designer designs an interface that ensures optimum interaction between people and systems.

User Experience Design (UXD)

Whether it's a smart fridge that replenishes itself online, or a watch that tracks our activity, the user experience of digital technology has become a reality for every professional designer. You might already have some ideas of how to improve your daily life with the use of technology, but what UXD teaches you is to funnel your creativity by putting the end users of your product at the forefront of the designing process.

HBO-ICT

What did you do when you woke up? WhatsApp, put a photo on Snapchat? Later you probably did a payment with your bank card and checked the news on you smart-phone? All this is possible thanks to life changing ICT. HBO-ICT combines creativity and functionality to make you develop this fast changing sector. The bachelor programme consists of 5 specialisations: Software Engineering, Business and Management, Information Security Management, Network and Systems Engineering and Information and Media Studies.

The Faculty ITD has three campuses: The Hague, Delft and Zoetermeer. Each location has its own character. The main campus in The Hague is the largest and characterized by a vibrant and international atmosphere. The campus in Zoetermeer is located in the Dutch Innovation Factory: a place where education, research and companies meet and closely collaborate. The campus in Delft is located, together with our technical faculty, on the premises of TU Delft. Please note on which campus your course takes place; if your minor is in Delft or Zoetermeer and you opt for housing in the Hague, additional travel expenses may be applicable.

Courses

Find below an overview of all courses offered in English at the Faculty of IT & Design

Courses	ECTS	Fall Semester 1 Term 1	Fall Semester 1 Term 2	Spring Semester 2 Term 3	Spring Semester 2 Term 4
European Project Semester	30	x		x	
User Experience Design	30	x			
Game Development	30	x		x	
Photography	15	x			
Becoming the next successful online startup	30	x		x	
Software reversing and exploitation	30	x			
Reading Objects	15		x		

You will be placed on the course of your preference based on available places. When this course is full, we will make you another offer.

European Project Semester

Interdisciplinary

Climate change, poverty or security, the problems we are facing today are complex. 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 learnt 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 fast changing world.

Students work in international and interdisciplinary Scrum teams of 4–8 students on their projects. Students learn to learn and to take responsibility for their learning and their project work and they develop their intercultural competences, their communication skills and their interpersonal skills.

Students work in an interdisciplinary and international student team on a project provided by an external partner: company, research group or other organisation. Students will apply their disciplinary knowledge and skills and learn from students from other disciplines.

European Project Semester	
Credits	*30 ECTS*
Code	ITD-HMVT22-K70
Entry requirements	Passed the first two years of a bachelor programme
Semester	Fall and Spring semester
Method	Workshops and project work
Lecturer(s)	Anneke Wieman, a.wieman@hhs.nl, +31 6 86808911
Learning outcomes	In this minor, you will learn the following: • To evaluate your knowledge on different cultures in an international group of students • To express yourself well in business English during oral presentations • To write a structured research report in English • To demonstrate a critical and investigative attitude, including: - to be able to formulate relevant research questions - to be able to apply relevant search strategies - to select and apply relevant theories • To clearly describe research results in a research report • To be able to bridge cultural differences in order to carry out a project successfully • To apply your own disciplinary knowledge to the project and to respect and value the input of people from other disciplines • To combine relevant disciplinary knowledge from different group members (including your own) to develop an innovative solution for a company's problem. • To demonstrate your progress in three selected 21st century skills

	• To apply Scrum appropriately to develop the final solution
Recommended or required reading/tools	Bring your own laptop. Other tools and literature will be provided.
Assessment methods	Group assessment (45%), individual portfolio (15%), group assignments (40%)
Level	Undergraduate: fourth year
Location	The Hague
Course content	Technical know-how will be provided by experts from companies involved and the nature of it is based on the type of project. In each group attention will be paid to - Intercultural communication (15%) - Research (10%) - English (15%) - Project (60%: Scrum, collaboration, personal development and content depending on the type of project)

Game Development

You will be part of a (bigger) team working on a (serious/ simulation) game. The aim is to form multidisciplinary teams for getting experienced in collaborating with people from different disciplines. You will be encouraged to enrich your way of thinking in the game development domain.

You are free (within certain constraints) to come with a proposal, a 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. It is important everybody has the possibility to develop him / herself.

Mainly the Unity (game engine) is used for the development of your game, but for the technical disciplines some parts will be disabled for implementing own versions of engine components, such as the physics engine, the scripting engine or addition of AI

During the development of the game you will be rewarded with achievements by accomplishing milestones (continuous assessment of knowledge and skills). The end of the project will be presented at a mini conference where all interested people and involved companies are invited.

The minor Game Development is suitable for students from different disciplines that have an interest for knowing how to develop games. They like to work together with students from other disciplines on the development of their (simulation / serious) game.

While playing games, did you always wonder how they actually do that? How do they build it? We offer you a cool project in which you build you own game as part of a group of students. But …… We do ask an enormous amount of effort (also in time) in return.

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).

Game Development	
Credits	30 ECTS
Code	ITD-HMVT22-K85
Entry Requirements	There are no formal requirements, however students may be limited in their choices if they don't have a technical background.
Semester	Sem 1 (term 1&2) n& Sem 2 (term 3&4)
Method	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).
Lecture(s)	Marcella Veldthuis

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 at least two roles (related to the classes) he will fulfill in the group. Below you'll find the roles and some examples of their responsibilities. **Game Producer** Responsible for managing the group, organizing the EXPO, possible product owner. **Engine Architect** Creating custom tools, rewrite some core engine mechanics, writing custom shaders. **Game Programmer** Write the game mechanics, communicate with the engine code, unit test mechanics. **Game Designer** Tell the story within the game, owner of the GDD (Game Design Document), create an atmosphere in the game. **Level Designer** Create beautiful levels, tell a story in each level and invent puzzles. **Storytelling** How can you tell a good story through games? What pitfalls are there to avoid? How can you create emotion for the player? **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. **Optimizations** Game engines are real-time systems. They need to be as optimized as possible. Tips & Techniques for achieving the highest framerate will be discussed in this course. **Artificial Intelligence** Games need A.I., but always to support the gameplay. How do you create believable intelligence without making the game impossible to beat? **Math** No games without math. From vector math to matrix calculations and quaternions. All is needed in today's games. **Physics** Most modern games have physics simulations as part of the engine. How does that work? How can you create a believable world without taking up all the computing resources? **3D modelling** You will learn how to create your own 3D models. From the

	mesh to the textures and everything in between. Can you make the model look beautiful, but still keep the poly-count under control? The roles the student chooses have influence on the classes/lessons to follow. You have to 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.
Recommended or required reading/tools	The books depend on the classes you choose. Title: Game Engine Architecture v3 ISBN: 9781138035454 (release 27 July 2018) Title: The Game Production Handbook v3 ISBN: 9781449688097 Title: An Architectural Approach to Level Design ISBN: 9781466585416
Assessment 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).
Level	Undergraduate
Location	Zoetermeer
Course content	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 character development and storytelling? In this minor, you will be part of a (bigger) multidisciplinary team developing a (serious/ simulation) 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 with a proposal, 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. It is important that everybody has the possibility to develop him / herself. For the development of your game the Unity (game engine) is used, but for the technical disciplines some parts will be disabled for implementing your own versions of engine components, such as the physics engine, the scripting engine or addition of AI.

	During the development of the game you will be rewarded with achievements by accomplishing milestones (continuous assessment of knowledge and skills). The end of the minor, the project will be presented at a conference where all interested people and involved companies are invited.

Becoming the next succesfull online start-up (interdisciplinary)

Everyone can be an entrepreneur, as long as you have long-lasting idea and??? will to transfer your idea into a success! This course is the ultimate experience for students who want to find out whether they fit the role of entrepreneur, and whether they have the ability to start a successful (profitable) online start-up.
In this course you will realise your idea. It is not 'just a school assignment'. You will speak with real life customers or businesses, you will figure out what their problems are and you will build a website, app, tool or product which actually solves the problem of that customer or company. Sounds simple, doesn't it? Well, in reality it is hard work. But it is fun too.
Online Start-Up is a real 'hands-on' course and a great chance to work on your innovative idea. You can work on it by yourself, or in a small team. You will be supported by teachers, as well as company speakers that give you the insights on what they have learned and experienced in their companies.

Course Content

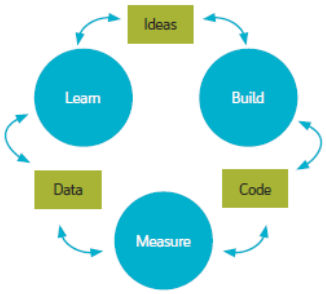
In 'Becoming the Next Successful Online Start-Up' we will guide you through the early phases of entrepreneurship. Therefore we will use the Lean Start-Up – Methodology by Eric Ries.

Lean Start-Up by Eric Ries

Where traditional companies mainly focus on creating an extensive business plan, Lean Start-Up thinks of building your own company in a completely different way. The main idea of Lean Start-Up is that you improve your idea or product continuously.
This thought is executed by a Build-Measure-Learn strategy. Only within weeks you will create your first minimal viable product (MVP) and start measuring whether this product actually adds value from the perspective of your primary target group.

Basics of entrepreneurship

Besides transferring your idea into an online product, this course teaches you several necessary basics of entrepreneurship,
such as:
Founders shares: who owns and earns what within your company-team?
Customer Segments: what is your main target group and what are their pains and problems?
Business Model Canvas: we'll use the BMC-model to give you a solid basis as entrepreneur
Competitors: what is your position in the market, compared to other parties?
Pitching: what makes your pitch successful in gaining investor capital



Learning Goals
This course is an extensive introduction in the many aspects of entrepreneurship. If you already have a business idea, the course gives you a chance to discover if your primary idea is life worthy. If you are 'just' interested in the concept of entrepreneurship, this course forms an excellent experience of 'feeling like an entrepreneur' for ten weeks.

Entry Requirements
This is a hands-on course. One of the goals is to make a success of your idea. You have to contact customers and arrange appointments with companies. If you are not sincerely willing to invest time and effort in this, this might not be the right course for you.

Becoming the next succesfull online start-up (interdisciplinary)	
Credits	30 ECTS
Code	ITD-HMVT22-K68
Entry Requirements	Students need to have an idea for an online/software concept, such as a website, app or cloud-application. Furthermore, students must be willing to invest real time and effort in transforming their idea into a success. In addition, students must have experience with any one of the following subjects: designing software applications or interfaces, business IT management, software development, user experience design or any related business subjects, mostly focused on information technology.
Semester	Sem 1 (term 1&2) & Sem 2 (term 3&4)
Method	The module has the following teaching methods: Lecture Practice (Research and Development)
Lecture(s)	Anil Manraj
Learning outcomes	• Starting a successful online start-up 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 - Learn strategy. How? • Analysing: Students will analyse the market, their team and their idea. They will make assumptions about their target group Research Skills: Students continuously measure whether an idea actually adds value from the perspective of the primary target group.

<table>
<tr><td></td><td>

Managing the Project: Students will build a team and divide the roles and the work within the team with Lean Start up.
Pitching: Students will have to convince a jury of their own idea with a pitch in English.
Co-creation: Students need to work in smalls teams where effort and investments must be divided equally.
Build-Measure-Learn: Students will validate their assumptions and learn from feedback to make a pivot and change their original plan.
MVP: Students will be transforming an idea into a concrete (online) product (MVP) with market potential with the help of Lean Start up and Business Model Canvas
Product- or service development: Students from multidisciplinary teams will develop their idea into a real IT related product or service.

</td></tr>
<tr><td>Recommended or required reading/tools</td><td>Book: Eric Ries, The lean startup (recommended purchase)</td></tr>
<tr><td>Assessment methods</td><td>Requirements: Students must pass all weekly assignments as part of their portfolio (minimum 5.5 per product)
<table>
<tr><th>Testform</th><th>Percentage</th><th>Week</th><th>Retry</th></tr>
<tr><td>Portfolio</td><td>75%</td><td>wk 1 t/m 18</td><td>Same term, wk 10</td></tr>
<tr><td>Assessment (oral exam)</td><td>25%</td><td>wk 19</td><td>Same term, wk 10</td></tr>
</table>
</td></tr>
<tr><td>Level</td><td>Undergraduate. Completed the first two years of major</td></tr>
<tr><td>Location</td><td>Zoetermeer</td></tr>
<tr><td>Course content</td><td>Developing a brand new IT-related startup isn’t as easy as it seems: do you really understand the problems and needs that your potential customers are experiencing? Do you know what they currently do to solve these problems and/or needs? Are you sure that the solution in mind solves them and that you can build a viable business around them? Throughout the program, students refine their startup’s hypothesized business model based on instructor, peer, and customer feedback and experience common challenges faced by startup-entrepreneurs as they build a their new company in a step-by-step approach. In interactive live lectures and with strongly involved startup coaches, students will learn how to develop a business model to test their assumptions about product offerings and market demand. This includes the development of their first (functional) prototype.

This minor program is ideal for IT students who have a new startup idea in mind prior to joining the class.</td></tr>
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Software reversing and exploitation

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.

Software reversing and exploitation	
Credits	30 ECTS
Code	ITD-MINOR22-K94
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.
Semester	Sem 1 (term 1&2)
Method	Hybrid lectures, lab assignments and personal project.
Lecture(s)	Daniël Meinsma (d.j.meinsma@hhs.nl)
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.
Recommended or required reading/tools	Bring your own laptop (minimun 8GB RAM).
Assessment methods	(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.
Level	Undergraduate: fourth year
Location	Zoetermeer
Course content	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.

Reading Objects

Meet our characters: the mirror, the ring, the dice, the key, the drinking glass, the book, the cuddly toy, the glasses, the football, the apple, the guitar, and the trophy.
By in-depth study of an object, and by redesigning this object in playful and provocative ways, we try to shed new light on the value and future of the object. In the minor Reading Objects, we move away from user-centred design and explore object-centred design.
The minor Reading Objects is likely to appeal to all programs with a creative character. The explorations in the minor build understanding for various interpretations of objects, and as a consequence lead to more effective cooperation in multidisciplinary contexts.
Via Research through Design, we invite you to reflect on your future profession and your responsibilities in inspiring and creative ways. With a basis in philosophy the minor takes great thinkers and philosophical approaches as a starting point. But we also borrow from as wide a field of disciplines as possible, ranging from archaeology to photography, from creative writing to ethnography.
Be prepared: you will be out of your comfort zone at times. We aim at a demanding yet fulfilling experience. Most of the work will be done at school in a small-scale studio setting.

Learning objectives:

1 The student is able to **analyse and describe an object** borrowing from a variety of perspectives (e.g. ideas from philosophical approaches*, artefact analysis, history, etymology, archaeology, photography, technology, semantics/semiology, arts). The emphasis is on multi-facetedness.

2 The student is able to **build a shared language** in multidisciplinary cooperation by understanding various professional interpretations of objects.

3 The student is able to **write a vision on what the object is**. The emphasis is on distilling a focus from the variety of object descriptions.

4 The student is able to **redesign an object** (functional, playful, provocative) to communicate the vision. The deliverable is an **experiential prototype** (an actual physical object, a documentary, a storyboard, ….).

5 The student **demonstrates 21st century skills** (critical thinking, creativity and innovation, information literacy, et cetera.)

* Selected philosophical approaches include: Hermeneutics, Post-phenomenology, and work by Latour, Heidegger, Wittgenstein, Akrich, and Verbeek.

Reading Objects	
Credits	*15 ECTS*
Code	ITD-MINOR22-K76
Entry requirements	We welcome a limited number of students with the aforementioned attitude from outside the faculty. The minor fits with programmes with a design/innovation character. But the minor will also suit students with an interest in the objects related to their future profession. Check with the exam committee of your programme if this minor can be part of your exam programme.
Semester	Sem 1 term 2

Method	Part A (introduction to approaches in reading objects and thorough analysis of a specific object) Each lecture day in the first 2 weeks starts with an introduction to an approach. Students then explore the approach for the remainder of the day. On non-lecture days, students work independently in groups. Lab User Experience (SL 6.37) is the base station. Lecturers are available for tutoring. Part B + C (vision and design) Workshop on vision development. The design phase consists of three-day design sprints. We kick off each sprint with a stand-up session. In this session, arrangements for further tutoring are made.
Lecturer(s)	A. (Alex) Zakkas, e-mail: a.zakkas@hhs.nl E.I. (Elke) Müller, e-mail: e.i.muller@hhs.nl N. (Nazanin) Karimi, e-mail: n.karimi@hhs.nl C.A. (Chris) Detweiler, e-mail : c.a.detweiler@hhs.nl
Learning outcomes	Meet our characters: the mirror, the ring, the dice, the key, the drinking glass, the book, the cuddly toy, the glasses, the football, the apple, the guitar, and the trophy. By in-depth study of an object, and by redesigning this object in playful and provocative ways, we try to shed new light on the value and future of the object. In the minor Reading Objects, we move away from user-centred design and explore object-centred design. The minor Reading Objects is likely to appeal to all programs with a creative character. The explorations in the minor build understanding for various interpretations of objects, and as a consequence lead to more effective cooperation in multidisciplinary contexts. Via Research through Design, we invite you to reflect on your future profession and your responsibilities in inspiring and creative ways. With a basis in philosophy the minor takes great thinkers and philosophical approaches as a starting point. But we also borrow from as wide a field of disciplines as possible, ranging from archaeology to photography, from creative writing to ethnography. Be prepared: you will be out of your comfort zone at times. We aim at a demanding yet fulfilling experience. Most of the work will be done at school in a small-scale studio setting. Learning objectives: 1 The student is able to **analyse and describe an object** borrowing from a variety of perspectives (e.g. ideas from philosophical approaches*, artefact analysis, history, etymology, archaeology, photography, technology, semantics/semiology, arts). The emphasis is on multi-facetedness. 2 The student is able to **build a shared language** in multidisciplinary cooperation by understanding various professional interpretations of objects. 3 The student is able to **write a vision on what the object is**. The emphasis is on distilling a focus from the variety of object descriptions. 4 The student is able to **redesign an object** (functional, playful, provocative) to communicate the vision. The deliverable is an **experiential prototype** (an actual physical object, a documentary, a storyboard, ….). 5 The student **demonstrates 21st century skills** (critical thinking, creativity and innovation, information literacy, et cetera.)

	* Selected philosophical approaches include: Hermeneutics, Post-phenomenology, and work by Latour, Heidegger, Wittgenstein, Akrich, and Verbeek.
Recommended or required reading/tools	Study guide Selected texts (Philosophy, Design Thinking, various disciplines) Method descriptions for analysing objects Description SCRUM
Assessment methods	In the first part of the minor you will fill a **portfolio** with analyses and descriptions of an object. Grading criteria focus on the variety of approaches, the thoroughness of the analyses, and the quality of the presentation. (50% of final grade, minimum partial grade 5,5, learning objectives 1, and 5) A **vision document** builds a bridge from research to design. The document is a concise textual/visual statement about the object under study. Grading criteria include originality, foundation (links with theory), and quality of expression. (20% of final grade, minimum partial grade 5,5, learning objective 3 and 5) The second part of the minor results in an **experiential prototype**. The prototype is presented by means by a one minute video clip. This prototype and presentation will be graded in design quality, newness and fit with the vision. (30% of final grade, minimum partial grade 5,5, learning objective 4 and 5) Part A (weeks 1 through 2). Approaches in reading objects. These are applied to a variety of objects. Part B (weeks 3 through 5). Thorough analysis of a selected object. Part C (weeks 6 through 8). Formulation of a vision and design of a new or modified object to communicate the vision. Part D (week 9) Examination.
Level	Undergraduate: fourth year
Location	The Hague
Course content	You are curious You are creative You are design-minded You like detours You have affinity with technology You like theory You are not afraid to chew on something You are eager to learn in a multidisciplinary environment Programmes with a fit include: User Experience Design, Communication & Multimedia Design, and HBO-ICT.

	The minor could also be of interest to students from these programs: Bouwkunde, Civiele Techniek, , Elektrotechniek, Facility Management, , HBO-Verpleegkunde, Huidtherapie, Industrieel Product Ontwerpen, Industrial Design Engineering, Integrale Veiligheidskunde, Mechatronica, Bewegingstechnologie, Pedagogiek, Process & Food Technology, Climate & Management, , Voeding en Dietetiek, Werktuigbouwkunde. Students outside the factulty IT&D should check with their examination board for approval. Be prepared: you will be out of your comfert zone at times. We aim at a demanding yet fulfilling experience. Most of the work will be done at school in a small-scale studio setting.

Photography in focus

Photography in Focus is an introduction to the world of photography. The main focus is ‘learning to see’. Seeing leads to meaningful images; images that shape the ideas of the maker. In order to achieve
this, knowledge of photography
techniques is essential and these techniques will be dealt with extensively. Attention will also be paid to photography from a historical and theoretical perspective.
Maintaining ‘a dummy’ forms a large part of the learning process. All your ideas, plans, sketches and sources of inspiration (e.g. from magazines) are collected here. The dummy gives an impression of the process involved in the development and execution of the assignments.

Course content

Photography in Focus involves five practical assignments. In the Texture and Rhythm assignment, students study the specific photographic qualities of materials. For the Styling assignment, the focus lies on learning how good styling can contribute to the persuasive power of the photographic image. In the Light assignment, students study form while using the human body as their subject. In the Time assignment, students record the process of change in form and in the final assignment the students are free to choose a subject of their choice.

Photography	
Credits	15 ECTS
Code	ITD-HMVT22-K10E
Entry Requirements	First year of bachelor’s degree The student requires certain hardware and software and must be able to work independently.
Semester	Sem 1, term 1
Method	1 Practical class, 1 practical workshop, 1 theoretical lecture. The total weekly study load is approximately 40 hours.
Lecturer(s)	Leon Schröder (L.C.Schroder@hhs.nl)
Learning Outcomes	Attention will be paid to these competencies at various stages in the minor and they will be translated in the following learning objectives:

	• The student can transpose a concept into a photographic image. • The student can effectively employ different (basic) photography techniques. • The student can effectively use photo editing software such as Photoshop, InDesign and Lightroom in his/her work at a basic level. • The student is aware of historical developments in photography and can analyse and comment on such. • The student can illustrate his/her vision on contemporary photography or graphic arts. • The student can reflect on his/her development verbally (presentations) and in writing (logbook). • The student can complete the assignments in time in accordance with the content and product criteria (two books of a specified size and format)
Recommended or required reading/tools	The student must have a good digital SLR camera and a tripod. A laptop with Adobe Creative Suit CC (at least Photoshop and InDesign) is essential too. Blackboard reader, work files and a selection of relevant websites.
Assessment methods	The minor as a whole, is worth 15 ects, divided into: Practice (75%) The student will complete five practical assignments, which are presented in the digital portfolio in Blackboard. The teacher will assess the work and give the student feedback. In week 8 it will be determined whether or not the student has completed the digital execution of the assignments satisfactorily. If satisfactory, the student may participate in the verbal assessment in week 10. During this assessment the student will present the assignments in a photo book. This book comprises the four compulsory practical assignments and the result of the free assignment 'Fascination'. After the assessment the teachers will determine the grade. Competencies: Creative and communicative ability. Theory (25%) The student submits 3 written assignments via Google Drive. The teacher will assess this work and give the student feedback. In week 8 all assignments should be submitted and assessed (pass/fail). Competencies: Ability for critical reflection and communicative ability. The student has completed the minor and is awarded 15 study points if he/she has passed both the practical and theoretical assignments. The resit will take place in week 10 of the following period.

Level	Undergraduate
Location	The Hague
Course content	The minor ‘Photography in Focus’ is an introduction to the world of photography. The main focus of this minor is “learning to see”. The aim of the minor is that “seeing” will lead to meaningful images, images that give shape to the ideas of the maker. In order to achieve this aim, knowledge of photography techniques is essential and these (basic) techniques will be dealt with in the minor. Aside from this practical knowledge, attention will also be paid to photography from a historical and theoretical perspective. What does an image mean? Is this meaning unequivocal? Can it be directed? The minor “Photography in Focus” comprises both practical and theoretical elements. Practice This minor involves five practical assignments. Based on these assignments you will continuously research the possibilities from specific photographical perspectives. Examples of this are: In the ‘Light assignment, you will look at creating form with light. In ‘Texture and Rhythm’ the focus is on the correlation between light and camera angle. And in ‘Time the focus is on making a series of images based on an act or on change. The photography techniques required to complete the assignments will be dealt with in the workshops. Progress made in carrying out the assignments will be displayed in a digital portfolio on Blackboard. The digital portfolio will offer insight into the progress of your work. All try-outs, experiments and results are visible here. Your portfolio is shared with fellow students and your teacher and forms the basis for feedback, both online and during workshops. Theory In the theoretical part of this minor you will work on the weekly assignments that are relevant to photography from a historical or theoretical perspective. The lectures, both online and at the university, will provide you with the basic knowledge to get started on the assignments. You will learn to recognise and describe different styles of photography such as documentary and snapshot photography and you will learn about the historical development of photography.

International Semester UXD: User Experience Design

This international 20-week semester covers the foundations of user experience design (UXD) and consists of several courses. The semester allows a maximum of six exchange students (in order of registration). Please find below an overview of courses in the semester.

International Semester UXD	
Credits	30 ECTS
Code	The semester consists of the modules listed under “Course content”.
Entry requirements	**English level B2 or higher (mandatory), C1 recommended**
Semester	Fall semester
Method	Mixed methods, varies per course.
Lecturer(s)	Contact person: Antti Jylhä, a.t.jylha@hhs.nl
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 creative design process using the design thinking methodology. - Demonstrates curiosity, creativity, and bravery in design work and communication.

	- 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.
Recommended or required reading/tools	Bring your own laptop. It is required to obtain the license for Adobe Creative Cloud. Required books: - Nunez, C. Nunez Mahdi, R. Popma, L. *Intercultural Sensitivity: From Denial to Intercultural Competence.* ISBN: 9789023256885 Other tools and literature will be provided.
Assessment methods	UXD-RD-22: assignment week 9 UXD-SC-1-17: assignment week 8, assessment week 8 UXD-IUX-1-16: assignment week 9 UXD-DC-20: assignment week 9 UXD-PC-20: assignment week 4, assignment week 10 UXD-BTP-22: assignment week 19, assessment week 19 UXD-P1-1-16: assessment week 19 UXD-OP-20: assignment week 19
Level	Undergraduate: first year
Location	The Hague
Course content	**UXD-RD-19 Research for Design (3 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-1-17 Professional Skills (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-PC-20 Programming Class (3 ECTS)** On this course, you will learn the fundamentals of programming and making digital prototypes. After an introductory assignment in prototyping, a 1-week

intensive bootcamp focuses on stimulating creativity and validating solutions with programming. The aim is to teach knowledge and understanding of the logic and structure required in programming. It does not aim to teach programming for any single production environment or specific object (e.g. front or backend development, smartphone), but to more broadly look at the creative potential of code.

UXD-BTP-22 Building and Testing Prototypes (5 ECTS)
Prototyping is a fundamental element in digital design. In this course, you learn to apply different prototyping methods and tools to make your design come to life so that people can experience the design before it is implemented. An important part of the process is also to use the right methods of testing and evaluation in order to learn how to improve the design.

UXD-P1-1-16 Project Bespoke Design (6 ECTS)
As with a lot of concepts used in a rapidly developing field there isn't a set definition of what 'bespoke' means within the UX industry. But ongoing development of technologies in three- dimensional scanning, rapid prototyping and advanced manufacturing will have a major impact on the potential ability to fulfil the individual consumer's needs directly and instantly. In this project, we will use bespoke design in the sense of fitting the needs, personality & lifestyle and context of a user, and using empathy to really understand what this user wants and needs. Designing for one particular user will give you an understanding of how people experience things and how technology can play a role in people's daily lives. In the project, you will go through all the stages of a design thinking process to arrive at a meaningful and engaging design.

UXD-OP-20 Online Presence (4 ECTS)
On this course, you will get introduced to HTML/CSS, the essential elements of web development. You will also work on your (online) representation as a future design professional in order to obtain an internship or a design job during or after this study. You will be stimulated to have a curious, creative, experimental and playful attitude, and learn what you can gain if you engage others in or with your projects.