

Course Catalogue

2022/23

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German for Internationals (2 ECTS) | Carol Battista - Compulsory course

What is the content of the course?	German language basics pursuant to A1 level (or A2 for students with prior knowledge)as well as specific university /survival vocabulary (Course may need to be split into 2 groups depending on previous levels)
Project description	Handouts and conversation groups, vocabulary notebook.
Learning objective	Orientation to Schwäbisch Gmünd and German culture. Expansion of previous knowledge of German for intermediate students. Introduction to basic German (A1) and “survival “German
Course assessment	Written exam 90 minutes
Does the course have a more practical or theoretical focus?	Practical focus

Presentation Techniques Workshop (2 ECTS) | Tanya Matefi – Compulsory course

What is the content of the course?	<p>Storytelling. Presenting somebody else. Presenting oneself. (Compulsory presentation) Getting the most out of the voice. Eye-Contact Training. Delegating in a team, contributing in a team. Presenting as a team - supporting each other, making interesting segues. Coping with nerves. (Relaxation exercises.) Using body language, movement, hand gestures and facial expression. The Power of Three - joke telling. Improvised and prepared team presentations. Identifying the core message of a presentation. Strategies for making presentations unique, e.g. finding new perspectives. Final Presentation. (Compulsory presentation)</p>
Project description	<p>The purpose of this workshop is for participants to practice various techniques, as well as develop self-confidence, in order to make successful presentations by practically making several presentations for a “built-in” audience, while receiving feedback and tips from the trainer and the other participants. In a safe and positive environment, participants can overcome their inhibitions and practice making different kinds of presentations. Individual presentations, team presentations, improvised and prepared presentations. The workshop has intense sessions, with many improvised presentations, followed by a break in which participants have time to work on prepared presentations. Students are encouraged to film their presentations for the purpose of self-assessment and reflection.</p>
Learning objective	<ol style="list-style-type: none"> 1. To learn and practice good communication skills and public speaking techniques in order to confidently make effective and memorable presentations. 2. To develop self-confidence in presenting, overcoming inhibitions and practice and implement relaxation techniques to overcome presentation anxiety. 3. To learn and practice optimal ways to prepare and make individual and group presentations.
Course assessment	<p>Every presentation is immediately followed by a feedback session. Completion of the course depends on students attending a minimum number of sessions and making 2 compulsory presentations. Verbal feedback is given by the trainer and other participants. Students record their presentation and are encouraged to later watch and assess themselves, and to continue this process of self-assessment at intervals over time, to better gauge their progress in presenting.</p>
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Product Design

More Daily Movement (6 ECTS) | Ivo Geissner

What is the content of the course?

Products are to be developed that show new and improved ways in terms of application technology, aesthetics and sustainability.

Projects description

The objects to be designed should help people to provide meaningful movement to passive parts of the body during their everyday activities or work.

This project is not intended to promote a fitness cult and the user should not have to take extra time to exercise. The products should invite the user to movement tasks that can be imperceptibly integrated into a daily routine.

Is it possible to move actively during long car journeys without impairing the own attention? Or to be active at times at school, in lectures or in the office without disturbing the lessons or neglecting one's work? Is there a small movement assistance for the handbag or briefcase?

Learnings and results

The project results will be communicated in the form of a graphic design and a model.

Course assessment

Project Work

Does the course have a more practical or theoretical focus?

Practical focus

Course descriptions: Product Design

Product Design II (6 ECTS) | Gerhard Reichert

What is the content of the course?	Systematic, methodical product development and design of functioning products that solve a practical problem.
Projects and goals of the course	<p>E.g. first principles thinking (Elon Musk) to create products that work better and solve a specific problem.</p> <p>Applying clever yet simple design principles and solving concrete problems.</p> <p>Projects that can be commercially realized and technically profitable.</p>
Course assessment	<p>Design Process</p> <p>Project: mid- and final presentation</p> <p>Results</p> <p>(Relevance, Innovation, Quality, Details, Complexity)</p>
Learnings and results	<p>Function and or ergonomic model, design model, estimating production costs and market price, business canvas - further information will be given in the course</p> <p>Visualization and Documentation</p> <p>(Quality, Details, Complexity, Concentration)</p> <p>Project visualization, one-pager and portfolio, real and virtual exhibition</p>
	<p>Participation in the James Dyson Award - voluntary</p> <p>... "Projects will be judged based on the strength of their contribution, not only based on the invention itself. You must communicate not only the meaning of your invention, but also how the product was developed and how you came to the final design. The demonstration of an iterative approach with trial and error will help you ..."</p> <p>Source: https://www.jamesdysonaward.org/de-de/how-to-enter/</p>

Course descriptions: Product Design

CAD2 - Solidworks (2 ECTS) | Gerd Burchard - German and English

What is the content of the course?

Students learn the basics of CAD software Solid Works. You will develop and construct various objects. First you will do some examples with the group and learn some tools and all the functions of the programme. Later on you will work on your own final projects and can ask the teacher individual questions. The course is also suitable for beginners.

Projects and goals of the course

Being able to render various common everyday items and do detailed replica of a self-chosen everyday object in Solid Works. The object is going to be assembled as several components and will be set together afterwards.

What programs are used?

Solidworks

What is required? (materials, tools...)

Computer and programmes are provided from the school during the time period of the course.

Does the course have a more practical or theoretical focus?

Practical focus

Course descriptions: Product Design

Drawing 2 / Rendering (2 ECTS) | Alexander Ott

What is the content of the course?

Drawing II conveys skills for the graphical implementation of idea structures in the context of Product Design. The course describes drawing as a creative tool and as a means of interdisciplinary communication of facts.

In this course, the fundamentals of the representational drawing are first taught and expanded. The topics are the basic layout of a representation, perspective structure, proportion, stroke, light and shadow, surfaces, as well as the deliberate use of colors.

At first you will work uniformly in the given contexts. Development of sketches as drawing views and perspective as pure line drawings. A practical introduction to various surface modulation media follows. Therefore, the innovative process is stimulated by a creative task that brings together graphic and creative forces.

Learning outcomes

The participants get to know the possibilities and methods of creative drawing. They are introduced to analytical and independent work. In addition, personal skills are developed and increased.

Course assessment

It is a documentation with a fixed deadline to create, the content and scope of which are described in the course. Without examination - Grade 5. Participation is only possible once. Only registered students are eligible to participate.

Does the course have a more practical or theoretical focus?

Practical focus

Course descriptions: Product Design

3-D Design (2 ECTS) | Andreas Hess

What is the
content of the
course?

Course information to be added soon!

Learning outcomes

Course assessment

Does the course have
a more practical or
theoretical focus?

Course descriptions: Product Design

Process Design 1 (7 ECTS) | Stefan Lippert

What is the content of the course?

It is a truism that the internet knows everything and all we have to do is searching. In this course, we will therefore look at the possibilities for search and orientation.

To do this, we develop a topic of our own choice on which we explore, practice and use the corresponding working methods and tools based on the processes of user experience design. From ideation and research, we move via the user journey and the user story to the hypothesis of a future virtual product and thus to the experiment, in this case in the form of paper prototypes and finally a designed mock-up in Adobe XD or a similar prototyping tool.

Course assessment

The results are presented in a well-prepared pitch presentation of 10 minutes each. In addition, a presentation video with a duration of 90 seconds must be developed for each topic. Documents to be handed in are the XD clickdummy, the video and a documentation.

Does the course have a more practical or theoretical focus?

Practical focus

Course descriptions: Product Design

Grasshopper (2 ECTS) | Christian Jagdhuber - English

What is the content of the course?	The course provides practical and conceptual skills in working with parametric models in Grasshopper. We will learn step-by-step how to handle the different data types and how to process them, and practical examples will enable us to design basic parametric models ourselves.
Prerequisite	Rhino 6 basic knowledge (user interface, navigation, handling of NURBS geometry) or good knowledge in similarly structured programs; not suitable for advanced users and programmers! Regular attendance and dedicated participation is a basic requirement.
Learning objectives	<p>After completing the course, the student is able to/work in the field of:</p> <ul style="list-style-type: none"> _Getting to know the visual programming interface. _Functional principle of graphical programming in Rhino 6 with Grasshopper _What is Algorithmic Thinking? _Methodology and form finding _Application areas _Basic knowledge of creating, processing, manipulating, and managing generative ("living") data. _Learn and apply the most important Grasshopper tools for designers _Outlook (Design follows Function?!) _Practical exercises
Course assessment	<p>Presence, cooperation, documentation</p> <p>Evaluation criteria:</p> <p>quality of presentation, discipline in the implementation and further development</p> <p>Transferable skills:</p> <p>The skills taught in the course are related to more complex digital media and the analog part of design. Digital created conceptual designs serve as a template for model construction and construction.</p>
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Product Design

Rendering 3 (2 ECTS) | Alexander Ott

What is the content
of the course?

The course imparts methods and skills for the digital representation and presentation of idea structures in the context of project implementation. First, the basic concepts of drafting drawing are deepened. Presentation and technical introduction to the digital tools used (currently: Wacom Board, Photoshop CC) The student is introduced to the coordinative and motoric processes of digital representation. The working basis is provided by analogue or digitally generated line drawings in view and perspective. They form the technical, constructive substructure for the later presentation. Training goals: General skills merge. Students should combine the advantages of analog drawing (rendering) with those of digital. They should recognize and implement the possibilities for the visual optimization of facts, develop aesthetic sensitivity, i.e. learn to evaluate and optimize their abilities to abstract.

Learning outcomes

At the end of the course, students will be able to:

- digitally create idea structures
- Work with 2D programs in a controlled manner
- Coordinated use of digital drawing tools (current, Wacom Board)
- To differentiate which quality in which phase
- Student creates representations that make a clear statement to the properties of the product
- Uses creative means in a targeted manner.

Task types:

- Draw objects directly on the Wacom Board
- Draw the layouts
- Area modulation
- Execution of structures /textures
- Structuring the layout means dividing it into several working levels
- Adhere to the coordination of work steps / sequence (e.g. area in front of structure)

Course assessment

Attendance, participation, documentation, results of the exercises.

Does the course have
a more practical
or theoretical focus?

Practical focus

Course descriptions: Product Design

Product Photography (2 ECTS) | Jens Werlein

What is the content
of the course?

Course information to be added soon!

Learning outcomes

Course assessment

Does the course have
a more practical
or theoretical focus?

Practical focus

Course descriptions: Product Design

CAD IV (Advanced Rhino) (2 ECTS) | Christian Jagdhuber

What is the content
of the course?

Course information to be added soon!

Learning outcomes

Course assessment

Does the course have
a more practical
or theoretical focus?

Practical focus

Course descriptions: Product Design

Cinema 4D (2 ECTS) | Benjamin Funk

What is the content of the course?

First the students will get to know the basics of how to build something in Cinema 4D. They will learn how to form an object, to animate and render it. They will also learn about Expresso Tags and other fun tools you can find in Cinema 4D. Not everything is product based, they will also learn how to animate abstract moving shapes.

Projects and goals of the course

The goal is to give the students a basic idea on how Cinema 4D works, how you can build something, animate and render it. As a final project you can most likely pick something yourself. If you have a project with a product, which is already built in another CAD programme you can import, animate and render it. If you have nothing yet, you are free to build whatever you want in Cinema or another CAD programme and then animate and render it in Cinema 4D.

What programs are used?

Cinema 4D and maybe Rhino or Solid Works to build a model for the final project, which is to be uploaded in Cinema 4D to be animated and rendered.

What is required? (materials, tools...)

Computer and programs are provided by the school for the time period of the course.

Does the course have a more practical or theoretical focus?

Mostly practical focus

Course descriptions: Product Design

Function follows form (6 ECTS) | Benjamin Brüssing

What is the content of the course?	"Function follows form". The reversal of the famous quote by the American architect Louis Henry Sullivan ("form follows function") forms the starting point of the task
Project description	The scope for use is open and undefined. The result should be a product with practical application benefits (e.g. furniture, lighting systems, office and residential accessories, architecture, toys, etc.). The design process is to be illustrated in a documentation and the final product is to be visualized in a model.
Learning objectives	Intensive and experimental engagement with 2- and 3-dimensional structures. These are generated by combinations or through-rings n of geometric primitives within 2- and 3-dimensional grid structures. Practical implementation of product designs through different manufacturing and manufacturing processes.
Course assessment	Project work (individual or group processing) Theme issue Briefing, explanation on the subject, research concepts, sketches CAD design, pre-models Elaboration final design implementation Model building presentation
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Product Design

Flat Pack (6 ECTS) | Simon Büsse

What is the
content of the
course?

The work environment, temporary and spatial changes will be analyzed and documented in order to gain insights for an improvement of the current work situation. Subsequently, you will approach the concept of circularity in a special context with our cooperation partner in order to develop a design strategy that meets today's requirements for sustainability and resource consumption.

Projects and goals
of the course

Design an „object for work“ for a defined problem that includes the areas of ergonomics, assembly, and international shipping significantly improve and help users achieve greater comfort, peace of mind, and safety in their work environment.
Create a 1:1 prototype that brings your design to life and allows the viewer to experience it.

Does the course have a
more practical or
theoretical focus?

Mostly practical focus

Course descriptions: Product Design

Product Design 4 (7 ECTS) | Carmen Hinderberger

What is the content of the course?

Water is the basis for the entire biosphere. Ponds, rivers, lakes, wetlands, and oceans are the habitat for myriad plants and animals and are a key component of the ecosystem. Groundwater is at once our main source of drinking water and a habitat. We use water for our food, daily hygiene, and recreational activities. Water also plays a key economic role as an energy source, transportation medium and raw material. Efficient protection and conservation of water resources are crucially important for biodiversity and sustainable use.

Projects and goals of the course

1. Research
Presentation of the research results in form of reports and handouts.
2. Design conception
With the help of sketches and mock-ups a minimum number of 2 designs should be explored and developed. >> Presentation and selection
3. Design finalisation
The chosen design concept will be finalised in all design relevant concerns including form, material, surfaces, colours, naming product graphics and packaging. A 1:1 model should be buildt. >> Presentation and documentation

Course Assessment

Presentation and handout in the research phase. At the end of the semester a 1:1 model and a 6 - 8 page documentation must be presented. The individual documentations are summarised as a book and reflect the work results of all students.

Course descriptions: Product Design

Economics (2 ECTS) | Friederike Spiecker

What is the content of the course?

Economy is not everything, but we are affected by it in many areas of life. It is therefore important to understand economic processes. The microeconomic perspective, i.e. the situation and the options for action of an individual company and an individual worker, is part of this and is addressed selectively in this class. Mostly, however, we are interested in the economy as a whole and the repercussions it has on us.

After the Corona crisis, how will the next big crisis, the Ukraine war, be reflected in the economy in this country and elsewhere? How are the prices developing, and how do wage agreements react with respect to inflation? What do both mean for the income situation of people from different social classes and for political stability? What do trade surpluses have to do with migration flows? How can economic policy be used successfully in the fight against climate change?

Answers to these and similar current questions are to be examined using empirical data. Economic concepts such as competition, free trade, exchange rate formation on free foreign exchange markets, self-imposed government debt constraints, social security, minimum wage or unconditional basic income are explained in an understandable way and critically examined. We encounter the causes of little progress in climate protection, inflation, national debt, income inequality, international trade imbalances, currency crises and unemployment.

Projects and goals of the course

The students get an overview of the most important economic contexts and the instruments of economic policy. They can describe and explain current economic developments using empirical materials. Your independent judgment with regard to current economic policy issues will be strengthened.

Course Assessment

Grades are awarded for active and regular participation in class and for taking a short final oral exam. This refers to a limited part of the subject matter that is selected by the students themselves from a list of topics for their individual examination. The focus is not on memorizing concepts, data or names, but on thinking independently with the help of the economic tools that are taught in the course.

Course descriptions: Product Design

History of Design (2 ECTS) | Michael Burke

What is the content of the course?

Lecture series „History of Design“ with the focus on the 20th century. Mediation of the historical context of design history, as well as the international development of modern design. Origins of the Bauhaus Weimar, the Russian Constructivism (Vkhutemas school Moscow) and the Bauhaus Dessau, as well as the „Elementary Typography“ of the 20s. Insight into the American design school, as well as influence of the Swiss Graphics in the 50s/60s at the HfG Ulm and on their development groups. Appearance of the company Braun, the airline Lufthansa and the Munich Olympics 1972. International examples: total design Amsterdam, Charles and Ray Eames (an American design bureau).

Course assessment

At the end of the lecture series: a short presentation by the students

Does the course have a more practical or theoretical focus?

Theoretical focus

Course descriptions: Communication Design

Typography Basics (4 ECTS) | Davide Durante - German and English

What is the content of the course?

In the course „Typography Basics“ the students learn the basics, importance, formation, development and application of typography.
Students get an insight into the history of writing and learn how to classify fonts into appropriate style groups.

Projects and goals of the course

Students develop a sense for typographic elements such as letter, word, line or column in relation to the surface surrounding them. In the course essential rules of typography will be learned and targeted by exercises.
The processing of increasingly complex and successive design tasks aims to explore the possibilities and effects of dealing with writing and to sharpen the typographic perception.
Students also systematically expand their knowledge by critically reflecting on their own designs.

Does the course have a more practical or theoretical focus?

Mostly theoretical focus

Course descriptions: Communication Design

Typography / Image / Layout (5 ECTS) |

What is the content
of the course?

Will be uploaded soon

Project description

Does the course have a
more practical or
theoretical focus?

Practical focus

Course descriptions: Communication Design

Information Design (6 ECTS) | Prof. Daniel Utz

What is the content of the course?	Building on the basics in typography and layout, this course will focus on the fundamentals of information design. Typography provides the necessary basic framework, but the focus is on getting to know and applying different visualization models: - Diagrams and data visualizations - Infographics, illustrations and functional representations - Icons and pictograms - Maps and timelines
Projects description	As part of the project work, complex topics are told in an exciting way and clearly presented with the help of graphic representations. Dynamic media and explanatory films are used to convey content compactly and effectively. The viewer gets a faster and more immediate access than with a purely text-based information transfer.
Course assessment	Analysis, conceptual development, creative execution Quality of dummies and prototypes Presentation and documentation of the design process
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Communication Design

Web (8 ECTS) | Prof. Daniel Utz

What is the content of the course?	Whether blogs or news sites, online archives or platforms: The web has become the central information and communication medium. The focus of the course is to exploit the potential of the web as a medium and to use it for the immersive communication of content. The goal is to think beyond standard templates and develop innovative formats to convey complex topics in an exciting way and make them accessible.
Project description	<p>Research and structuring</p> <p>The project starts with a broad research on the chosen topic. This should include research across all media: Books, for example, are excellent sources for large amounts of well-prepared content. The content is then analyzed and structured. The following tools are helpful: mind maps and diagrams, visual mappings, priority guides.</p> <p>Conception</p> <p>Based on a run through of the information system, different page types are developed: start page, different overview pages, detailed views. Different organization and visualization models are used.</p> <p>Layout</p> <p>On the web, content is no longer bound to a fixed form, but is prepared flexibly in dynamic layouts for different end devices (from smartphones to tablets to large displays). Therefore, layouts must be thought and developed responsively.</p> <p>Navigation</p> <p>Based on the layout approaches, the usability of the website is developed. The following questions are central to this:</p> <p>According to which criteria can information be arranged?</p> <p>How many levels of detail make sense?</p> <p>Which tools can be used for filtering, sorting and viewing?</p> <p>What amount of information is at all readable and digestible at a glance?</p> <p>Tools / patterns: scrolling, fading in and out ...</p> <p>Prototyping</p> <p>Depending on the project requirements, current tools such as Webflow, Figma or Adobe XD are used for prototyping. Coding yourself is explicitly desired and also part of the course. Prototyping should be iterative and start during the conception phase.</p> <p>Design System</p> <p>After defining the design basics (typography, color, layout elements, components), we develop design systems that are modular and flexible, yet consistent and recognizable.</p>
What programs are used?	
Course assessment	Interactive prototype / screencast, presentation and documentation
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Communication Design

Transmedial: Identity (8 ECTS) |

What is the content
of the course?

Course information to be added soon!

Project description

What programs are
used?

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Communication Design

Digital: Interface (8 ECTS) |

What is the content
of the course?

Course information to be added soon!

Project description

What programs are
used?

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Communication Design

Space: Exhibition Design (8 ECTS) |

What is the content
of the course?

Course information to be added soon!

Project description

What programs are
used?

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Communication Design

Digital Product Design (8 ECTS) |

What is the content
of the course?

Course information to be added soon!

Project description

What programs are
used?

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Communication Design

Editorial (8 ECTS) | Prof. Jürgen Hoffmann

What is the content of the course?	Right, left, straight ahead, around the corner or maybe up or down signage systems in a 2-or 3-dimensional environment Project description: Signage systems in a 2-or 3-dimensional environment. We will develop a wayfinding/information system with the goal to simplify multilayered instructions and information, to make it easily understood and projected into a spacial context.
Project description	We will have a look at existing projects and try to figure out, how to improve your project and workflow with basic UX rules.
Learning objectives	We analyse and assess the existing signage system and from that develop a new concept and new design parameters. In particular we analyze the specific usage, the spacial relationship and structure and the specific information context at various key points. Other factors could be distance, indoor/outdoor, light availability, analog or digital, frequency, near or far, barrier free and materials. language, pictograms and colors are basic building blocks of an information/ signage system, whereby the human being always is the determining factor in the center of a functional wayfaring system. The focus on the user, a logical and systematic approach are dominating factors for understanding and orientation.
Learning and results	Language, pictograms and colors are basic building blocks of an information/ signage system, whereby the human being always is the determining factor in the center of a functional wayfaring system. The focus on the user, a logical and systematic approach are dominating factors for understanding and orientation.
Course assessment	Participation, presentation of the end results
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Communication Design

Guidance System / Visual Appearance (8 ECTS) |

What is the content
of the course?

Course information to be added soon!

Project description

Learning objectives

Learning and results

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Communication Design

History of Design and Media (8 ECTS) | Dagmar Rinker

What is the content
of the course?

Course information to be added soon!

Project description

Learning objectives

Learning and results

Course assessment

Does the course have a
more practical or
theoretical focus?

Course descriptions: Interaction Design

Interactive Communication Systems 1 (6 ECTS) | Fabian Schröbel

What is the content of the course?	Interactive exhibits.
Project description	Design of data visualization and communication systems for knowledge transfer in the context of exhibitions and museums. Dealing with basic forms of interaction and with media-specific design problems, information architecture, narrative structure, relationship of text, image and animation and prototyping or simulation.
Learning objectives	<ul style="list-style-type: none">→ Storytelling→ Interface Design→ Navigation Design→ Data- & Infographics→ Visual Design→ Layout and Typography→ Prototyping and Simulation→ Design Process & Documentation→ Effective Team Collaboration
Course assessment	Final result / Prototype, presentation, documentation
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Interaction Design

Interface Design 2 (8 ECTS) | Carmen Hartmann-Menzel

What is the content of the course?	With many products - in our private as well as professional surroundings - we interact multimodally. Whether we do our laundry, purchase a cool drink at a vending machine or prepare a coffee, we interact with machines on different levels of perception and action. User interfaces contain aspects of haptic interaction, exchange of visual and audible information and feedback as well.
Project description	Understanding of multimodality, development of design solutions in a certain context of use (design project). Topics are free to choose, haptics should be included. Tasks will include user research, user requirements engineering, development of human centred design solutions / prototypes and evaluation.
Learnin objectives	Methodology, design and communication skills Prototyping, physical computing Evaluation and iteration of design
Course assessment	Execution of design project, documentation and presentations
Learning and results	Students are able to analyse a specific context of use, to specify user requirements which they can prioritise and structure. They know the different phases and methods of human centred design. They can prototype, iterate and evaluate (e.g. using usability tests) their design solutions. They train presentation and communication of design approaches in their project teams..
Does the course have a more practical or theoretical focus?	Practical focus

Course descriptions: Interaction Design

Usability Lab (2 ECTS) | Matthew Peissner

What is the content of the course?	<ul style="list-style-type: none">* Basics of user participation and user-based evaluations in interaction design* Overview of methods and principles for user-participatory design processes* Deep-dive on two methods: user testing and one selected user research method* Hands-on user testing, incl. planning, preparation, implementation, analysis and documentation
Learning Objectives	<ul style="list-style-type: none">* Participants can plan user participation and select appropriate methods for interaction design processes* Participants know how to plan, carry out, analyse and document user tests* Participants understand the potential of user participation in innovation and design projects and know how to use it
Course assessment	Documentation of user test (or selected user research method)

Reframing (2 ECTS) | Romas Stukenberg

What is the content of the course?	<p>Reframing — or how we can systematically expand our conceptual consciousness.</p> <p>The way we make sense of the world defines and limits our capacity to think. This workshop is dedicated to the methods and techniques which enable us to question our core beliefs, our certainties and subconscious views.</p> <p>We will build our skill of imagination and enhance the narrative quality of our concepts.</p>
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Course descriptions: Interaction Design

Sketching with Code (2 ECTS) | Benedikt Groß

What is the content of the course?	Systematic exercises for the methods of basic rendering principles and the fundamental techniques of image composition and programming with objects, surfaces, space, time, behavior and their parameters.
Learning Objectives	Students have a strong command of the fundamental design repertoire for the systematic organisation of surfaces, movement and interactive behaviors. They will understand design as a system and can translate basic images into a programming language.
Course assessment	Project Work

Course descriptions: Internet of Things

Programming Languages 1 (5 ECTS) | Asisa Asseily

What is the content of the course?

In this class students will learn programming as a tool, to create, prototype and visualize. The class covers basic programming elements such as variables, loops, conditions and classic algorithms. As well it covers complexity, prioritization and framing which is especially important in a creative and innovative context. Students will program with Processing(p5js) and JavaScript. Students will not learn every aspect of JavaScript or p5js, instead the class will focus on the core principles of programming. To get credits for "Programming Languages 1", the lecture and the tutorial must be passed successfully.

Programming Languages Exercises (2 ECTS) | Ekaterina Fedotova

What is the content of the course?

An addition and consolidation to the subject Programming Languages 1. This course must be completed in combination with the Programming Languages course.

Fundamentals of Web Technologies (2 ECTS) | Wolfgang Schmidt-Sichermann

What is the content of the course?

The Course provides Fundamentals of Web Technologies with a focus on Hypertext Markup Language and Cascading Style Sheets. Learning concepts of the web and the technical basics will enable you to design and create own web pages and client-sided formatting in the browser.

Course descriptions: Internet of Things

Visual Prototyping (2 ECTS) | Felix Hermann

What is the content of the course?

"Visual Prototyping fokussiert auf die Grundlagen der nutzerzentrierten Gestaltung digitaler Produkte. Mithilfe von Prototyping Software werden die Konzepte (z.B. Wireflows) schnell als voll bedienbare Anwendungsprototypen umgesetzt. Der Kurs vermittelt den Gestaltungsprozess im digitalen Bereich. Dabei liegt der Fokus auf einer schnellen, einfachen und iterativen Konzeptvisualisierung. Nach der Untersuchung und Überprüfung der aktuellen Implementierung werden die neu generierten Ideen zunächst anhand von Skizzen und Papierprototypen festgehalten, bevor sie Schritt für Schritt zu Mid-Fidelity und später zu High-Fidelity Prototypen weiterentwickelt werden. Die Prototypische Umsetzung erfolgt durch den Einsatz geeigneter Software, anhand welcher sich Nutzerführung, Interaktionen und Animationen darstellen und testen lassen. Hierbei steht die nutzerzentrierte Gestaltung stets im Vordergrund.

Visual Prototyping focuses on the fundamentals of user-centered design of digital products. Using prototyping software, concepts (e.g. wireflows) are quickly implemented as fully usable application prototypes. The course teaches the design process in the digital domain. The focus is on quick, easy and iterative concept visualization. After exploring and reviewing the current implementation, the newly generated ideas are first captured using sketches and paper prototypes before being developed step-by-step into mid-fidelity and later high-fidelity prototypes. The prototypical implementation takes place through the use of suitable software, which can be used to display and test user guidance, interactions and animations. The user-centered design is always in the foreground."

Design Methods (5 ECTS) | Christian Frank

What is the content of the course?

How to identify relevant problems and opportunities - how to design good solutions for them? How to develop innovations? How to form functioning interdisciplinary teams and how to methodically collaborate with external stakeholders?

In this course, students learn a variety of methods, principles and processes to explore user needs and user behavior on the one hand and to develop appropriate solutions and prototypes on the other hand. The lecture takes place in a cooperation of the study programs Internet of Things - Design of Networked Systems (HfG) and Internet of Things - Technologies in Application (Aalen University)."

Course descriptions: Internet of Things

Application Design 2 / Experience Design 1 (7 ECTS) | Thomas Techert

What is the content of the course?

Course description

User software facilitates and simplifies a wide range of work for users. The aim of the module "Application Design 2" is to analyze the most important work tasks of a selected user software (desktop) in order to redesign it and make it experienceable. In the first step, the students determine a suitable application as the object of consideration.

Task

The UX of a software is formed by the sum of its subtasks.

A general appearance of the software is designed, individual processes and interactions are iteratively designed, reviewed and elaborated."

Sustainability (2 ECTS) | Asisa Asseily

What is the content of the course?

The scale of what the design discipline is tackling has expanded. From one single user product to complex networks, companies and economic systems. What does that mean for designers? How does the need for sustainability change the common practice of designing for complex networks? Or will there be no change at all? In this class students will study concrete examples and discuss them in class to develop a critical mindset. After taking this class, students will be able to apply sustainability as core value of their further research, concepts and decision making.

Mobile Technologies (7 ECTS) | Markus Weinberger

What is the content of the course?

Different tasks are handled by one or more interdisciplinary teams. interdisciplinary teams. The process is based on the Design thinking approach. Technical and design knowledge acquired in the basic studies is applied."

Hybrid App Development (7 ECTS) | Tim Weise

What is the content of the course?

The market for mobile applications (apps) is essentially determined by the two platforms iOS and Android. For companies, this usually means that applications have to be implemented twice, which entails considerable additional costs and the need for additional personnel skills. Hybrid app frameworks address this point by enabling a common code base for all platforms, using proven web technologies.