

The following courses are offered to all international exchange students:

- German Language (2 ECTS)
- Presentation skills workshop (2 ECTS)
- Laboratory Week (compulsory) (2 ECTS)

Product Design

Product Planning (2 ECTS)

Relevant subjects will be related to support the development of comprehensive design and planning activities in further studies. Models of processes (e.g. stage-gate-models), phases and processes of product planning, foundations of planning for new products, market segmenting, market research tools.

Product Design (7 ECTS)

Questions about the novelty of form and its effect on product semantics will be discussed, and technical and market determining innovation processes included. In exemplary cases studies the experiences of professional designers and industrialists will be explained and analyzed to evaluate the practicability of design proposals. Live projects are sometimes carried out in this module with the aim of exploiting the academic freedom to seek innovative solutions.

Process Design (7 ECTS)

Topics of sustainability, service design, processes in companies, public organizations, or in public-private partnerships will be analyzed, planned, designed, innovatively improved, and subsequently evaluated. Specific methods such as Six Sigma and KAIZEN will be introduced and applied in project work. Seminars will cultivate an understanding of the role of product design, process design, and innovation in the corporate and public chain of creating added value.

Rendering (2 ECTS)

Digital or analog

Student Research Team Project, (7 ECTS)

Interdisciplinary project based on research. Examples of topics: sustainability, mobility, medicine techniques

3 Dimensional Design 2, (6 ECTS)

The students work on different assignments and problems that are practice oriented. They develop solutions for the problems by creating three dimensional objects and structures but no "products".

Topics cover the interdependence of material, form and structure, grouping and hierarchies, linear, planar and solid design elements, basic laws of the perception of form, product semantics.

Goals: The students know how to systematically develop three dimensional design solutions using various methods (e.g. morphological systematics, variations, product semantics) and means (e.g. model making, sketching, CAD). The students can visualize and communicate their concepts and can reflect and discuss their own approach as well as the ideas of others.

- no test or exam but grading of the results of the class (models, documentation)
- design process, quality of the design solution, documentation and visualisation

CAD 1, (2 ECTS)

Rhino Software

CAD 2, (2 ECTS)

Solidworks software

- parametric modelling of planes and solids
- planning packages, generating variations, working with building blocks
- building mock-ups (digital and analogue)
- communication tools for internal and external discussions
- producing accurate data for the final design
- communicating and documenting process and results

Clay Modeling, (2 ECTS)

Ceramics or Casting or clay modeling

Programme conception (6 ECTS) & Programme Language I (2 ECTS) / Typography foundations (5 ECTS)

- Systematic series of complementary exercises to achieve increasingly complex morphological and combinatorial static and dynamic sign operations.
- Methods of analysis for the evaluation of existing product designs with respect to their different design approaches, their organization and interaction potential, and the structure of their content and formal and aesthetic execution.
- Reflection using a principle-oriented design concept and its practical execution.
- Regular lectures about general theories and phenomena of visual content.
- Fundamental knowledge of programming languages integrated into project work.

Image 1 (2 ECTS)

Photoshop introduction

Simulation 1(2 ECTS)

Cinema 4D

Simulation 2 (2 ECTS)

After Effects

Typography/Image/Layout (5 ECTS)

Analysis of existing communication products, practice in sketching techniques, the visualization of content, and the application of current software. Techniques of information research, speech as a component of content-oriented design, the history of language signs, theme development, and structuring of argumentation, basic rhetoric and language tools, forms of texts, such as briefs, descriptions, minutes, papers, concepts, and presentations, suitable for studies and design work.

Audiovisual design (6 ECTS) / Image 2 (2 ECTS)

Fundamental principles of digital video and audio technology: recording, cutting, and montage. Fundamental software skills for manipulating images in real and artificial sequences. Complex syntactical consideration of visual processes, analytical methods, problem-solving strategies, and appropriate translation of the spectrum of sign relationships of a musical sequence into a temporal visual model.

Exhibition Design (2 ECTS) / Media Technology (2 ECTS)

Fundamental concepts of exhibition design. Application of scenographic methods: lighting, objects, use of media, dramaturgy, visitor guidance. Introduction to interactive forms of content communication appropriate to the media. Utilization of different forms of media communication in space (projection, sound, timed lighting programmes, touch-sensitive devices and interfaces, tracking). Techniques and parameters of integrated media planning.

Text/Image Design/Editorial (8 ECTS) / Editorial/Reportage (8 ECTS)

Studio, product, reportage, portrait, and documentary photography. Filming: direction, camera work, lighting, sound engineering, cutting. Theoretical approaches to moving images, image categorization and analysis, combinations of image and text, functions of image and text.

Transmedial Design (8 ECTS) / Interactive Design (8 ECTS) / Animation (8 ECTS) / Corporate Design (8 ECTS)

Study of problem-oriented tasks in the areas of 'Communication in Space' and 'Trans-media Publication'. Development and application digital and manual working techniques. Methods, strategies, and skills for independent solution, communication, and documentation of interdisciplinary communication projects. Working techniques for mixed groups to encourage exchange among students and to develop social and didactic skills.

Programme Conception (5 ECTS) & programme Language I (2 ECTS)

- Systematic series of complementary exercises to achieve increasingly complex morphological and combinatorial static and dynamic sign operations.
- Methods of analysis for the evaluation of existing product designs with respect to their different design approaches, their organization and interaction potential, and the structure of their content and formal and aesthetic execution.
- Reflection using a principle-oriented design concept and its practical execution.
- Regular lectures about general theories and phenomena of visual content.
- Fundamental knowledge of programming languages integrated into project work.

Media Technology (2 ECTS)

An analytic view of the different design approaches, organizational and interaction possibilities, internal structuring, formal and aesthetic execution, and social relevance of existing products will be carried out. Simple design concepts will be created and executed emphasizing content and the aesthetic aspects using formal design parameters of interaction design. Familiarisation with the fundamental aspects of visual, acoustic, and network-based media technologies. Creation of a product combining simple digital input and output systems and high-level programming.

Typography foundations (4 ECTS)

Demonstration and practice of freehand sketching using the elements line, area, cylinder, cube, and the modular arrangement of objects and sequences of operations. Theories and practical trials of the most important perspective construction principles for visualizing spaces and objects. Introduction to appropriate software for modelling and animating three-dimensional worlds

Programme Conception (5 ECTS) & programme Language II (3 ECTS)

- Syntactical and parametric design methods
- Studies of complex sign groupings in phenomenological, combinatorial, mathematical, and aesthetic contexts, especially colour systems and their application in dynamic interactive systems

3D in Medial Space (4 ECTS) – block course at the beginning of the semester

- Studies of the various programming languages and media technologies, especially tactile and spatial input and output procedures.
- Theoretical studies and practical research on the design potentials in spatial and temporal viewing models.

Interactive Communication system I (5 ECTS) / Photography (2 ECTS)

The design and development of communication systems especially for transmitting information in museums, exhibitions, and trade fairs. Basic forms of interaction and media-specific design questions, information architecture, visualization of information and data, utilization of text, images, and animation, simulation and prototyping. Photography is analyzed as a core area and method of producing images and recognized as a universal visualization tool. Introduction to the history of photography, genres, and individual photographers

Interface Design I (5 ECTS) & Usability (2 ECTS)

Conception, design, and variation of combined hard- and software interfaces, evaluation, and prototyping. History of the development of graphic interfaces and input/output devices. Introduction to the physical, motor, cognitive, and perceptive skills of the user or user groups. Introduction to the use of design specifications (design manuals and style guides), ergonomics (standards, DIN 9241/10 etc.), technology (platforms, hardware architecture). Design, visualization, and simulation tools and their use. Overview of tendencies and prospects in development and realization processes.

Application Design I (6 ECTS) / Programme language III (3 ECTS)

User-centred design methods. Principles of graphic user interface design. Project work will demonstrate methods of analysis for functional processes in software products and the development of man-machine communication supported by knowledge of the definition of human-computer interaction and topical software technology and script languages.

Simulation 2 (2 ECTS)

After effects Software

Moderated research, analysis, and evaluation of products and services in the areas of telecommunications, information technology, media, and electronics. Planning, visualization, and presentation of concept scenarios. Concept and production of simulation and interaction prototypes. Usability evaluation

Interactive Communication system II (8 ECTS) / Interface Design II (8 ECTS) / Application Design II (8 ECTS)

Interface design deals with the design and development of the hard- and software of extended man-machine interfaces, their reciprocal implications, and their influence on the design of user interfaces. Application design describes the definition of functions and their extent, fields of application, and of the behaviour and design of software products with regard to the requirements of graphic user interfaces and corporate design specifications.

Tracking technologies (2 ECTS)

Tracking technology tools (local and global) including eye-tracking and eyewear.