**Course description (topics)**

Title of the course:

## IOT – Design for people

Design is for the people. IoT is for the people. Enabling IoT based design solutions that make people's lives more worth living

Tutors of the course , contact details:

Bernhard Geisen (ex-chief designer of MEDION)

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| Code: | Related curriculum (programme/level): | Recommended semester within the curriculum: | Credit: | Number of class hours:<br>Student working hours: |
|---|---|---|---|---|
| Related codes | Type: (seminar/lecture/class work/consultation, etc.) | Can it be an elective course? | In case of elective what are the specific prerequisites: | |

Course connections (prerequisites, parallelis):
None

Aim and principles of the course:

During the exercise, the student does research. They explore the possibilities in the world of Interent of Things.

Based on our previous experience, the student builds the planning process taking into account the hierarchy of planning aspects, decides responsibly on the issues that arise during the task and gives rational answers to them.
One of the most important goals of the task is to be able to consciously test products as a designer with a focus on the user experience.

A key objective of the assignment is to be able to consciously identify the potential of the interconnected systems of the digital world.

Customizing the meaning of forms and material qualities will also be an exciting field of research. During the work, the analysis of the research results (form creation) plays an important role as source and inspiration.

The specific design work is preceded by a complex phase of gathering information and analysis, which summarizes the different design directions for each student. Then the system of criteria is developed, on the basis of which the specification of the plans and the creation of final, functional objects and the creation of the necessary documentation can start.

Learning outcomes (professional and general competences to be developed):

Knowledge: The use of basic design-research methods.

Ability: Finding connection.

Attitude: To discover problems and find effective solutions using design tools.

Autonomy and responsibility: To understand the responsibility of design practices and develop a critical standpoint in the design practice.

Topics and themes to be covered in the course:

Design is people-oriented

Design is based on people and their diverse needs. These needs range from physical and psychological to the demands of the human mind on the physical environment. Design not only follows the rules and intentions it has set itself, but above all has to deal with the interests of those groups or people that the design is intended to serve. As a result, the design and the drafts are above all purpose-oriented. In design theory, the term functionality was coined for this. Design differs from art primarily because of this purposeful orientation.

Design thinking methods & scientific methodological approaches

Identifying people's needs/problems from different perspectives by using the full range of (design) thinking methods.
Beyond typical design methods, the students deal with scientific approaches that come from other disciplines: i.e. psychology, natural sciences and thus prove that designers are networkers who are used to acting in an interdisciplinary manner.

Design steps

Emphasize
Define
Ideate
Prototype
Test & Refine

Successful products can only be created through a holistic approach using the design thinking method

It begins with understanding the problem, critically analyzing existing products in order to identify areas for improvement.
By developing an understanding of the overall context and the problems in detail, they will be able to formulate meaningful criteria to define the right goals

Design outcome

Create innovative product ideas or further develop well-known products based on sensible additions.
Constant attention to the technological background, the technical possibilities and the associated relevance of the human-machine relationship.
People and human needs are always in the foreground

Assessment criteria, what is taken into consideration in the assessment:

Teamwork research:

- Activity in the workshop
- Deadline
- Structure
- Content
- Effort

Individual or planning in pairs:

- Delivering homework on time
- Attending classes
- Activity and participation in classes
- Communication, presentation

Calculation of the final mark, based on the assessed requirements:

- the consistency of the research
- relevance of the problem
- documentation and structure of the working process
- presentations
- activity and participation in classes
- quality of the result

Recommended Literature:

The Internet of Things, Mercedes Bunz & Graham Meikle, Digital Media and Society Series, 2018

The Internet of Things , Samuel Greengard, MIT Press Essential Knowledge Series 2015
https://books-library.net/files/books-library.net-10072224Wp1Q5.pdf

**OTHER INFORMATION:**

11.09. Monday (13.40-16.30) Course start & briefing
20.09. Wednesday (12.00-17.00) **Workshop with Bernhard Geisen**

Research phase:
27.09. Wednesday (13.40-16.30) Weekly Consultation
04.10. Wednesday (13.40-16.30) Weekly Consultation

Concept phase
11.10. Wednesday (13.40-16.30) Weekly Consultation
25.10. Wednesday (13.40-16.30) **Consultation with Bernhard Geisen**

Design phase
31.10 Tuesday (10.00-12.50) Weekly Consultation

08.11. Wednesday (13.40-16.30) Weekly Consultation

Prototype phase
15.11. Wednesday (13.40-16.30) Weekly Consultation
22.11. Wednesday (13.40-16.30) **Consultation with Bernhard Geisen**
29.11. Wednesday (13.40-16.30) Weekly Consultation
14.12. Thursday Final presentation (KIPAK)

Research phase
Research in the field of IOT, identifying relevant problems that IOT can solve.

Concept phase
Developing ideas, selection

Design phase
Developing ideas, considering technical and electronic possibilities

Prototype phase
Prototyping, conceptual design, modelling of the whole system by identifying and refining the necessary technological options.

Recognition of knowledge acquired elsewhere/previously/validation principle:

- No exemption from attending and completing the course will be granted,

Out-of-class consultation times and location: