6TH AACHEN INTERNATIONAL SUMMER SCHOOL IN RESEARCH METHODS AND DATA SCIENCE (ACISS)

EXPERIENCING DESIGN THINKING

Dr. Susanne Wosch

“DESIGN THINKING IS A (HUMAN-CENTERED) METHODOLOGY FOR CREATIVE PROBLEM SOLVING.” (D.SCHOOL, STANFORD)

Contact: Wosch.Susanne@gmail.com

SUMMER 2020
# Course Overview

<table>
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<th>Course Name:</th>
<th>Experiencing Design Thinking</th>
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| Degree Programmes: | 1. Post-Docs and PhD students  
2. Master BWL (all specializations): MSBWL10, MSBWL13  
Master Wirtschaftswissenschaften (all specializations): MSWiWi10, MSWiWi14  
Master Wirt.-Ing. (MSWiBau, MSWiEET, MSWiWPT, MSWiMB, all specializations): MSWi10, MSWi15 |
| Lecturer: | Dr. Susanne Wosch |
| Contact: | Wosch.Susanne@gmail.com |
| Location and Time: | Kackertstr. 7, Room 301  
31 August to 4 September, 9:30am - 4.30pm |
| Content Description: | Design Thinking is a (human-centered) approach for creative problem solving. It stands for a methodology, a working process, a mindset and even for the organizational transformation it entails. At the core are key elements like user-centricity, co-creation and iterative working styles. In our course setup, this is reflected in highly diverse teams, a continuous immersion into the user’s perspective and the relentless pursuit of the best solution. This requires a holistic and unbiased way of thinking as well as the capability to change perspectives and make sense of the combination of observation and information.  

This course provides participants with an experience- and application-oriented introduction to the Design Thinking methodology. Subsequently we will create business models of our generated solutions. The focus is on four key aspects: |
| | 1. User Centricity: We will put the users and their needs in the center of our considerations along the entire process.  
2. Open ideation approach: We will create a broad spectrum of ideas to solve the problem applying distinctive ideation methods and prioritization criteria.  
3. Rapid prototyping and testing: We will turn the selected ideas into tangible prototypes and will experience user feedback on prototypes by testing.  
4. Transfer to business model: In addition, we will develop different business models for selected solutions and test if they are acceptable for users and feasible for the market. |
| Qualification Objectives: | Overall goal: Participants gain conceptual and practical knowledge about Design Thinking including Business Modelling. |
After successfully completing this course, the participants will have acquired the following learning outcomes:

**Knowledge / Understanding**

Participants

1. understand key elements of the Design Thinking methodology and its application;
2. learn about an agile and dynamic process for solving problems

**Abilities**

Participants

3. understand users and derive appropriate solutions for their dedicated needs;
4. apply various tools and methods for user understanding as well as ideation;
5. translate problem solutions into business models for value creation

**Competencies**

Participants

6. explore the value of mindset shift in business life;
7. have experiences in practical application to develop new user-centric solutions
8. learn about prototyping and testing as immanent part of the process

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<th>Literature:</th>
<th>See readings below</th>
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| Course Examination: | Group work (70%)  
Individual presentation (30%) |
| Participation Requirements: | No formal requirement. |
| Group Size: | 24 participants (max.) |
| Workload: | 30 hours of lecturing and group work  
120 hours of additional individual and group preparation |
| Type of Teaching Event: | Workshop sessions (group and individual work) with lectures |
| Language: | English |
| Credits: | 5 |
2 SCOPE OF THE COURSE

Today’s business world is undergoing changes at tremendous speed and faces increasing complexity. We find transformation in every aspect of life with an impact on our customers’ needs and expectations. Strong competition, small margins and disruptive new technologies and players require genuine product, service and business model innovations to secure a sustainable competitive advantage. Digitalization opens up new opportunities but also challenges us as customer expectations are continuously rising. It is all about creating and delivering superior customer experiences, real innovations and meaningful solutions that make a difference. This results in a challenge for us: to find the balance between exploitation and exploration.

All these changes require paradigm shifts in the development and the delivery of customer solutions. We need to become radically faster and less expensive and therefore need to fundamentally rethink the way we work and develop. We need to see today’s and tomorrow’s challenges differently than we did before to create real innovation and meaningful solutions. For us, this means to rethink and reorganize the way we work and approach problems. A very powerful instrument to face the future is Design Thinking. During the last decade, the approach became a trend in the business world and even part of business strategies as it improves the way new offerings are created. One of the major advantages of Design Thinking is that it can be applied to any kind of problem or business challenge and works for all types of organizations, from small to large.

How to imagine Design Thinking?

Design Thinking is a methodology which comprises the three following key elements:

1. Design process
Design Thinking uses a highly collaborative and dynamic user-centric process for problem solving. In parallel the mindset developed by applying Design Thinking supports us in tackling our daily challenges. In addition, project goals are met faster and cheaper.

2. Working principles
The methodology builds on the following principles:
Start small but start: Focus on the most important tasks and reach visible and verifiable rough results as quickly as possible. Test them with users and reject improper ideas early on.
Focus on people: Explore the needs of the users. Empathize with them and reach a deep understanding of their requirements.
Build on the ideas of others: Share your ideas and build on the (wild) ideas of the others.
Be brave, think beyond: Make progress by breaking your routines. Use the users’ needs as your most important source of inspiration. Question existing ideas and make room for creative and refreshingly new ones.

3. Methods
A myriad of various innovative methods brings the design process to life. They can be compiled for each phase of the process according to the design challenge. With a plug-and-play approach, the methods can also be applied to single tasks or in daily routines to create value for you and your working results.

Following the Design Thinking process - as a vital element - the generated solutions will be transferred into different alternative business models to indicate first insights of economic feasibility and value creation.
3 PARTICIPANTS AND REQUIREMENTS

Participants
1. Post-Docs and PhD students
2. Master BWL (all specializations): MSBWL10, MSBWL13
   Master Wirtschaftswissenschaften (all specializations): MSWiWi10, MSWiWi14
   Master Wirt.-Ing. (MSWiBau, MSWiEET, MSWiWPT, MSWiMB, all specializations):
   MSWi10, MSWi15

Advanced master students are invited to participate. However, they should be in the second half of their respective MSc program.

Due to the interactive teaching format, the number of participants is limited to 24. Preference will be given to PhD students.

Grading
The final grade will be calculated as the weighted average of quality of contributions to group work and group outcome (70 percent) as well as individual In-class presentations (30 percent).

Complete attendance of each session of the course is absolutely required because each session builds upon the previous one.

Leaves will only be granted in cases of illnesses or if the person demanding a leave is required to participate in an official activity of the University, Faculty, or Institute.
### 4 TENTATIVE COURSE SCHEDULE

Within this “Experiencing Design Thinking” course we learn and train the Design Thinking methodology by

- following a step-wise methodological approach
- contributing to a solution of a real social and economic highly topical challenge

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<th>Mo</th>
<th>Tu</th>
<th>Wed</th>
<th>Thu</th>
<th>Fri</th>
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<tr>
<td><strong>Morning Session</strong></td>
<td>Performance of Design Thinking Challenge for the Design Thinking Course</td>
<td>Presentation of user-centric methods</td>
<td>Presentation of ideation methods</td>
<td>Presentation of rough prototypes</td>
<td>Presentation of visualized prototypes</td>
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<td>'Understand' (cont.) Development of empathy</td>
<td>'Observe' (cont.) Deeper understanding of people’s needs</td>
<td>'Ideate' (cont.) Prioritization of one idea</td>
<td>'Test' Iterative reflection</td>
<td>'Implement' Generation of business models and alternatives</td>
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<td>Determination of needs</td>
<td>'Define' Determination of dedicated key question</td>
<td>'Prototyping' Building of a rough prototype</td>
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<td>Group/individual exercise: User-centric methods</td>
<td>Group/individual exercise: Ideation methods</td>
<td>Group exercise: Visualization of the prototype</td>
<td>Pitch in front of a jury</td>
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In the last session of the course on 4 September all outcomes of the design thinking challenge including the business models will pitched to (a simulated) ‘top management’. Each presentation will be rated by this jury based on predetermined criteria. This provides a further opportunity to train ability for storytelling as well as persuasiveness.

### Contact Details

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