<table>
<thead>
<tr>
<th><strong>Department</strong></th>
<th>09 Engineering and Management</th>
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<tbody>
<tr>
<td><strong>Course title</strong></td>
<td>Design Thinking and Human-Centered-Design</td>
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<tr>
<td><strong>Hours per week (SWS)</strong></td>
<td>4</td>
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<td><strong>Number of ECTS credits</strong></td>
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| **Course objective**    | General understanding of the human-centered mindset, process, method and tools:  
  • Setting up a project  
  • Identify a relevant problem and define a starting point  
  • Conduct user research  
  • Extract relevant information from different data sources  
  • Reframe the initial problem statement if needed  
  • Generate ideas based on research and data points  
  • Use prototypes to communicate and test those ideas  
  • Use test results to iterate the initial solution further  
  • Present and pitch final solution towards decision makers / other stakeholders  
  • Reflect on approach and learnings |
| **Prerequisites**       | Product Management and/or Marketing |
| **Recommended reading** | Tim Brown (2008): Design Thinking  
  Jeanne Liedtka and Tim Ogilvie (2011): Designing for Growth: A Design Thinking Tool Kit for Managers  
  https://www.ideo.com/question/how-can-we-use-ai-to-make-things-better-for-humans |
| **Teaching methods**    | Seminaristic class. Group size: max. 30 students |
| **Assessment methods**  | Project |
| **Language of instruction** | English |
| **Name of lecturer**    | Jennifer Heier (Siemens AG)  
  Lucas Bock (Siemens AG)  
  Dr. Bettina Maisch (Siemens AG) |
| **Link**                |                                |
| **Course content**      | Project briefing:  
  How might we develop a delightful, effective and efficient digital companion as a support in an industrial/business environment?  
  Project preparation:  
  We will identify relevant problem/need of an existing (digital) solution or process in an already given business or industry context. This problem will be described in detail (what, why, how, what kind of stakeholders are involved?).  
  Project application:  
  Students groups of 3 persons will apply the methods and tools introduced in the seminar along a self-selected project topic.  
  Module 1 (Fr & Sa): Problem Space  
  • General Intro Human-Centered-Design Principles / Examples from Industry  
  • Intro Understand & Observe (problem space)  
  Module 2 (Fr & Sa): Solution Space  
  • Intro Synthesize, Ideate (solution space)  
  • Intro Prototype & Test  
  Module 3 (Fr & Sa): Implementation Space  
  • Test Results & Iterate / Intro: Pitching  
  • Final presentation and critical review of results and decision taken / Reflect of the HCD process and its application |
| **Remarks**             | Workload: Presence time: 60 hours  
  Self-studies preparation of lectures and exam: 60 hours |