
# SERVICE DESIGN & ENGINEERING (SDE)

## DR. GERHARD GUDERGAN

## SYLLABUS

FIR at RWTH Aachen University | Institute for Industrial Management
Cluster Smart Logistics on RWTH Aachen Campus
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**WINTER TERM 2021/2022**

# COURSE OVERVIEW

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| Course Name: | **Service Design & Engineering (SDE)** |
| Degree Programs: | 1. Master Wi.Ing. alle Fachrichtungen<br>2. Master BWL<br>3. Master Wirtschaftswissenschaften<br>4. Erasmus / exchange students on the M.Sc. level |
| Lecturers: | **Dr. Gerhard Gudergan** |
| Teaching assistant: | Yannick Becerra (yannick.becerra@fir.rwth-aachen.de)<br>Lukas Bruhns (lukas.bruhns@fir.rwth-aachen.de) |
| Location and Time: | **FIR, Campus-Boulevard 55, 52074 Aachen or digital format**<br>**The exact format will be announced via RWTHmoodle (or E-Mail)** |

| Session | Date | Time |
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| Session I<br>*Lecture & Exercise* | Fr., 22.10.2021 | 8:30am – 11:45am<br>12:45pm – 04:00pm |
| Session II<br>*Lecture & Exercise* | Fr., 12.11.2021 | 8:30am – 11:45am<br>12:45pm – 04:00pm |
| Session III<br>*Case Presentation* | Fr., 19.11.2021 | 8:30am – 12:00pm |
| Session IV<br>Lecture & Exercise | Fr., 03.12.2021 | 8:30am – 11:45am<br>12:45pm – 04:00pm |
| Session V<br>*Case Feedback* | Fr., 10.12.2021 | tbd |
| Session VI<br>*Final colloquium & due date of the paper* | Fr., 18.02.2022 | tbd |

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| Content Description: | This lecture follows the various activities along the stages of the service innovation process containing the design and engineering of services and business models.<br><br>Designing new services is of increasing importance for companies both to develop successful business strategies and to develop and implement new and successful business models. The objective of this class is to introduce into a comprehensive set of methods and tools which guide through the design of new services. The perspective of the business manager is taken and enhanced by an in-depth in-sight of academic and research challenges as well. We will have a focus on management questions and will take a framework that organizes the different tasks to design a new service concept within the context of a new business model. There will be a specific focus and a stepwise methodology to systematically designing innovative services. We will learn why and when to use the different methods and will learn how to manage the overall design process. The class is case-study based. The |

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| | industrial case study will be introduced by partners and we will solve the given problem in a team-based approach. There will be lectures to introduce into the overall methodology and tools and workshops/ exercises to experience how to make use of the knowledge gained. |
| Case Information: | The case is provided this semester by TÜV NORD AG. TÜV NORD AG is an internationally active service provider for technical testing and certification in various sectors such as industry, automotive, and education.<br>The scope of the case lies on the development of a service for the assessment of sustainability along supply chains. Due to the new supply chain law, companies are facing growing pressure to prove compliance with standards that have to be defined. The case focuses on the hydrogen value chain, which is increasingly becoming the center of attention as an alternative energy source. Further information on the case and TÜV NORD AG will be announced at the kick-off event at the latest. |
| Qualification Objectives: | After participating in this course participants shall …<br>▪ Acquire a sound understanding of the importance of new services for successful business strategies and new business models<br>▪ Differentiate various understandings of new service design and engineering - Acquire competences to successfully manage a new service design project and process<br>▪ Structure the design process and integrate with other corporate functions such as marketing and engineering<br>▪ Know about the tools and methods of new service design and engineering<br>▪ Argue about future trends in the service industry |
| Literature: | We use three different kinds of materials: (1) lecture, (2) case studies and (3) scientific paper for the background |
| Examination: | The course grade will be determined based on one of the following modes of evaluation:<br><br>(A) colloquium (class participation) (weighting 50%) and written exam (60 minutes duration) weighting 50%,); or<br><br>**(B) colloquium (class participation) (weighting 50%) and written term paper (weighting 50%);** or<br><br>(C) written exam duration: (60 minutes) (weighting 100%)<br><br>As a rule, grading will be based on mode B. The final mode of evaluation (A, B, or C) will be announced and publicly displayed before the first class session.<br><br>To pass the exam, you will be required to prepare a presentation and a written term paper of your case solution within your group. |

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| Participation Requirements: | ▪ Solid command of English<br>▪ This class demands continuous participation in the class discussions and the preparation of case materials or paper assignments before each session. |
| Group Size: | 40 participants (max). |
| Type of Teaching: | Interactive lecture, method exercises in groups, student presentations |
| Language: | All lectures and materials will be in the English language. |
| Credits: | 5 |

Note:

- This course will be managed via the **e-learning platform RWTHmoodle**. All lecture slides and readings will be deposited here.