

Course No.: DLMBBD02	Course Title: Application Scenarios and Case Studies	Hours Total: 150 h
		Credit Points: 5 ECTS
Course Type: Wahlpflicht Course Availability: WS, SS Course Duration: Minimaldauer 1 Semester	Admission Requirements: None	
Course Coordinator / Instructor: See current list of tutors in the Learning Management System	References to Other Modules: Please see module description	

Course Description:

This course provides an opportunity for students to work on application scenarios for data science in selected industry sectors.

The course uses an eduScrum approach for self-organized learning. The lecturer takes over the role of the Product Owner and acts as servant leader to the student teams. Student Teams consist of 4-5 members, one of which is assigned the role of the eduScrum Master for his team.

Besides an introduction to eduScrum, Sprint planning and Sprint retrospective, all classes are performed as Sprints by Student Teams, to achieve the goal as defined in the Product Backlog, which is maintained by the Product Owner (lecturer). The course closes with delivery of a design document and a final presentation in front of a committee of selected lecturers.

Course Objectives and Outcome:

Upon successful completion of this course, students are able

- to establish an application scenario for data science within a self-organized team.
- to identify requirements and appropriate technologies for data collection.
- to evaluate and select applicable technologies for data pre-processing and processing.
- to assess challenges and risks of the selected approach.
- to clearly define the outcome and value of the approach.
- to elaborate a conceptual design document and a presentation for decision-makers.

Teaching Methods:

The learning materials include printed and online course books, vodcasts, online knowledge tests, podcasts, online tutorials, and case studies. This range of learning materials is offered to students so they can study at a time, place, and pace that best suits their circumstances and individual learning style.

Course Content:

1. Workflow Overview

1. Introducing the eduScrum Approach
2. eduScrum Events and Artefacts
3. Definition of Time Boxes (stand up, planning, retrospective)
4. Team Formation and Selection of eduScrum Masters
5. Requirements and Acceptance Criteria

2. Fields of Application

1. Overview on Fields of Application:
2. Selection of either of the fields (1 per team)
3. Summary of Product Backlogs

3. Sprint Planning

1. Sprint Planning Meeting
2. Definition of Done

4. Sprint

1. Sprint stand-up meeting
2. Sprint item processing

5. Sprint Retrospective

Literature:

- Drake, M. J. (2013). The Applied Business Analytics Casebook: Applications in Supply Chain Management, Operations Management, and Operations Research. New York: Pearson.
- Simon, P. (2013). Too Big to Ignore: The Business Case for Big Data. Hoboken, NJ: Wiley.
- Delhij, A., van Solingen, R., & Wijnands, W. (2015). The eduScrum Guide [online]. Available from: [http://eduscrum.nl/file/CKFiles/The_eduScrum_Guide_EN_1.2\(1\).pdf](http://eduscrum.nl/file/CKFiles/The_eduScrum_Guide_EN_1.2(1).pdf) [Accessed May 15, 2018].
- Schwaber, K., Sutherland, J. (2017). The Scrum Guide. [Online]. Available from: <https://www.scrumguides.org/docs/scrumguide/v2017/2017-Scrum-Guide-US.pdf> [Accessed May, 15, 2018].

An actual list with course-specific mandatory reading as well as references to further literature is available in the Learning Management System.

Prerequisites to Qualify for Assessment:

- Depending on the course: Completion of online knowledge tests (approx. 15 minutes per unit, pass / not pass)
- Course evaluation

Assessment:

- Written Assessment: Case Study

Student Workload (in hours): 150

Self-study: 110 h

Self-examination: 20 h

Tutorials: 20 h