



Information Systems & Digital Business

Digital Technologies, Business Analytics and Management

Winter Semester (annual rotation)

Institute:	Institute of AI in Management
Lecturer:	Prof. Dr. Stefan Feuerriegel
Assistant:	Assistants are annually changing
Weekly hours:	Weekly lectures, usually on Fridays and a few on Tuesdays
Credits	9
Examination:	We plan for an exam on site, in person.
Prerequisites:	No specific requirements
Course Material:	All course materials will be shared via Moodle. Students are required to self-enrol to the course through Moodle. The self-enrolment key can be accessed via LSF.

Course Description & Main Objectives

In this course, students learn how to plan, implement, and evaluate digital solutions in company settings. A focus will be on new digital technologies, best-practices for managing IT developments and business analytics. Exercise sessions will introduce students to programming data-centric solutions.

In recent years, there has been a dramatic increase in the use of digital technologies in management. The course focuses on the use of digital technologies in management. It covers topics such as business analytics, social media, blockchain etc.

The goal of the course is to help students understand how to use digital technologies to improve managerial effectiveness. They will learn how to harness the power of business analytics to make better decisions; how to create effective social media campaigns that reach target audiences; etc.

Overall, the course provides students with a comprehensive overview of how digital technologies are used in modern business settings. It equips them with the skills they need to take advantage of these technologies and become more successful managers. While there are risks associated with using digital technologies, there are also many benefits. Digital technologies make it easier for

people to connect with each other and share information than ever before. They also enable businesses to operate more efficiently and reach new markets around the world.

There will be exercise sessions where programming is introduced. This also forms part of the exam. And there will be real-world case studies from practice.

Lectures Overview / Course Outline

1. **Start:** Basic understanding of digital innovations
2. **Digital product innovations:** Descriptive approaches, network effects, privacy as a current challenge
3. **Digital business model innovations:** Descriptive approaches, data-based business model innovations as current challenges
4. **Implementation of digital organisations:** Approaches, governance structures, maturity models
5. **Deep-dive IT-management** (incl. SCRUM and agile management practice)
6. **Business analytics:**
 - Use case definition, value creation
 - Machine learning (ML)
 - Big data
 - Data management
 - Managerial implications
7. **Implementing real-world applications** (with "R") and programming sessions

Literature

James, Witten, Hastie & Tibshirani (2013): An Introduction to Statistical Learning: With Applications in R. *Springer*

Sharda, Delen & Turban (2014): Business Intelligence: A Managerial Perspective on Analytics. *Pearson*