University of Cologne
Faculty of Management, Economics and Social Sciences
Cologne Institute for Information Systems (CIIS)
Dr. Katharina Drechsler

Information Systems Development (ISD)

Welcome to the course!

Welcome to **Information Systems Development**! Developing an information system is about more than just technology—it's about understanding business needs, managing development processes, and making strategic decisions.

In this course, you will gain a **deep understanding of key IS development concepts**, including **ISD realization forms, process models, project management, risk assessment, and ethical considerations**. Through teamwork and hands-on activities, you'll apply these concepts to real-world challenges and develop your own concept for an information system solution.

What to Expect:
- Exploration and understanding of key information systems development (ISD) concepts
- Real-world case studies, e.g. on agile development and project management
- Interactive class discussions and workshops
- Hands-on team collaboration to develop a concept for an information system

Overview

Module	EM Wirtschaftsinformatik II [1277BEWIF2] SM Wirtschaftsinformatik III [1277BSWI13]
Instructor	Dr. Katharina Drechsler (drechsler@wiso.uni-koeln.de)
Term	Summer 2025
Teaching Form	Lecture + Tutorial
Examination Form	Portfolio
Teaching Language	German (spoken in the classroom), English (all course materials and announcements)
ECTS	6
Location	Room S01 (*Seminargebäude*, building no. 106)
Times	Thursday, 14:00 – 15:30 Friday, 10:00 – 11: 30 and 11:45 – 13:15
KLIPS	Summer Term 2025 (Second Registration Phase)

Content

- Challenges of the development of information systems and digital technologies
- Different realization forms of information systems: Make or Buy, Software as a Service, Outsourcing, Open Source, End-User Development
- Process models for ISD: Waterfall, Prototyping, DevOps, Agile
- Concepts, methods, and forms of project management for ISD
- Communication and leadership in ISD projects
- Ethical considerations in ISD

Learning Objectives

By the end of this course, you will:

- Recognize key challenges in information system development.
- Evaluate, select, and apply different realization forms of information systems based on their advantages and disadvantages.
- Understand and compare process models, like waterfall and agile
- Assess, select, and apply different project management approaches for IS development based on their respective strengths and weaknesses.
- Identify and mitigate risks related to time pressure, team dynamics, and leadership challenges.
- Work in teams to develop and present an IS solution concept effectively.

Timeline and Location

- **Thursday Sessions**
  - 14:00 – 15:30
  - Room S01 (*Seminargebäude*, building no. 106)

- **Friday Sessions**
  - 10:00 – 11:30 and 11:45 – 13:15
  - Room S01 (*Seminargebäude*, building no. 106)

There will be only 2 weekly sessions on average. These will be distributed across three weekly timeslots (see detailed schedule below for details). This way, no class will take place on Fridays, where the Thursday is a holiday and you can enjoy the long weekends ("Brückentage").

Important Dates:

- **First Lecture incl. Organizational Information:** 10th April 2025, 2pm to 3:30pm
- **KLIPS Exam Registration & Team Registration Deadline:** 25th April 2025, 11:59pm (*)
- **Submission Deadline Concept Design of ISD:** 22nd May 2025, 11:59pm (via ILIAS)
- **Mid-term Presentation Concept Design of ISD:** 23rd May 2025, 10am to 11:30am
- **Submission Deadline Final ISD Solution:** 17th July 2025, 11:59pm (via ILIAS)
- **Poster Slam / Exam Q&A-Session:** 18th July 2025, 10am to 1:30pm
- **eExam:** 22nd July 2025, 8:30am to 9:30am, Room S56 building 103 (Philosophikum) (*)

(*) official information only via KLIPS2.

Attention: Do not sign up for the exam on 18th September 2025 via KLIPS. You will only be able to take this exam if you registered for the first exam on 22 July and subsequently had to withdraw ("nachträglicher Rücktritt") due to examination incapacity ("Prüfungsunfähigkeit"). If this is not the case, an additional individual project will be required to pass the course if you sign up for the exam on 18th September 2025.

Assessment

This course will be assessed as a portfolio exam and consist of two main assessments:

Assessment 1- Information Systems Development Solution (Team Project) (42 points)
Conceptually design an information system information system to solve a relevant business problem of your choice. You will identify a business problem and give an overview of the information system solution you plan to develop to address this business problem. You are not required to build or program the system.

Assessment 1 of the IS Development solution consists of two parts:

o *Assessment 1a: Mid-term: Concept design of ISD (8 points):* The goal is to pitch the core idea and solution concept, demonstrate early progress, and identify key challenges, while receiving feedback to refine the project before the final submission.

o *Assessment 1b: Final ISD solution (42 points):* The goal is to showcase your conceptually developed information systems solution. The final solution include the following required elements:
  - Project overview, including addressed problem and solution
  - Choice of systems development methodology, including justification and adaptions
  - Timeline including milestones, project phases, and work packages
  - Staffing plan, including roles and responsibilities
  - Tools and techniques
  - Project risk analysis
  - Cost estimation
  - Stakeholder analysis

Assessment 2 - eExam (50 points)
A 60-minute eExam covering the whole lecture and tutorial. It will take place in the university's PC pool.

More detailed information on the assessment criteria can be found on Ilias.

Schedule *(Tentative and Subject to Change)*

Block	Date	Time	Session Type	Topic
ISD Fundamentals	10.04.25	14:00	Lecture	Introduction, Key Concepts, Course Organization
	11.04.25	10:00	Lecture	Key concepts, SDLC, ISD Phases
		12:00	Tutorial	Key concepts, SDLC, ISD Phases
ISD Realization Forms	17.04.25	14:00	Lecture	Realization Forms: Make vs. Buy vs. Subscribe, Outsourcing
	18.04.25	10:00	NO CLASS (Easter)	
		12:00		
	24.04.25	14:00	Lecture	Realization Forms: Open Source, End-User Development
	25.04.25	10:00	Tutorial	Realization Forms
		12:00	Workshop	Realization Forms
	01.05.25	14:00	NO CLASS (Holiday)	
	02.05.25	10:00	NO CLASS (Long Weekend)	
		12:00		
ISD Processes and Methods	08.05.25	14:00	Lecture	ISD Process Models
	09.05.25	10:00	Tutorial	ISD Process Models
		12:00	Lecture	Agile
	15.05.25	14:00	NO CLASS (Work on team projects)	
	16.05.25	10:00	NO CLASS (Work on team projects)	
		12:00		
	22.05.25	14:00	Tutorial	Agile
	23.05.25	10:00	**Exam**	**Mid-term Pitch**
		12:00	Workshop	Scrum Simulation*
	29.05.25	14:00	NO CLASS (Holiday)	
	30.05.25	10:00	NO CLASS (Long Weekend)	
		12:00		
ISD Project Management	05.06.25	14:00	Lecture	Project Management: Integration and Scope **(Online)**
	06.06.25	10:00	Tutorial	Project Management: Integration and Scope **(Online)**
		12:00	NO CLASS (Work on team projects)	
	12.06.25	14:00	NO CLASS (Pentecoast)	
	13.06.25	10:00	NO CLASS (Pentecoast)	
		12:00		
	19.06.25	14:00	NO CLASS (Holiday)	
	20.06.25	10:00	NO CLASS (Long Weekend)	
		12:00		
	26.06.25	14:00	Lecture	Project Management: Time, Cost and Risk
	27.06.25	10:00	Tutorial	Project Management: Time, Cost and Risk
		12:00	Lecture	Project Management: Quality, HR and Stakeholder
	03.07.25	14:00	Tutorial	Project Management: Quality, HR and Stakeholder
	04.07.25	10:00	Workshop	Modeling Workshop: Critical Path Method
		12:00	Lecture	Guest Lecture or Case Study (TBD)
Ethics in ISD	10.07.25	14:00	Lecture	Ethics in ISD
	11.07.25	10:00	Tutorial	Ethics in ISD
Examination		12:00	Lecture	Q&A Projects
	17.07.25	14:00	NO CLASS (time to work on team project)	
	18.07.25	10:00	**Exam**	**Final Pitch,** Exam Q&A
		12:00	**Exam**	**Final Pitch,** Exam Q&A

Selected Readings

Selected reading for this course includes the following textbooks:

- o Avison, David E.; Fitzgerald, Guy. (2006). Information systems development (4. ed). London: McGraw-Hill.
- o Schwalbe, Kathy. (2014). Information technology project management (7. ed., internat. ed). [Andover u.a.]: Course Technology Cengage Learning.
- o Pearlson, Keri; Saunders, Carol S. (2013). Managing and using information systems (5th edition). Hoboken, NJ: John Wiley & Sons, Inc.

Detailed information on the required reading will be provided in Ilias for each session.