

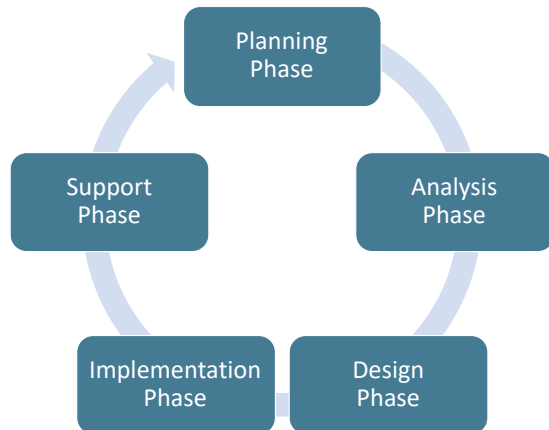


## Information Systems Development Syllabus

Last Update: January 24, 2022

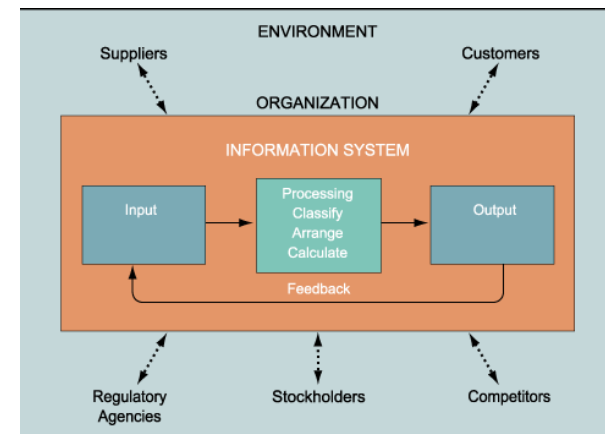
# What is this course about?

- Development of...
  - the set of activities that results in products. Development may include research, purchase, design, new development, modification, reuse, (re-)engineering, maintenance, or any other activities that result in products.

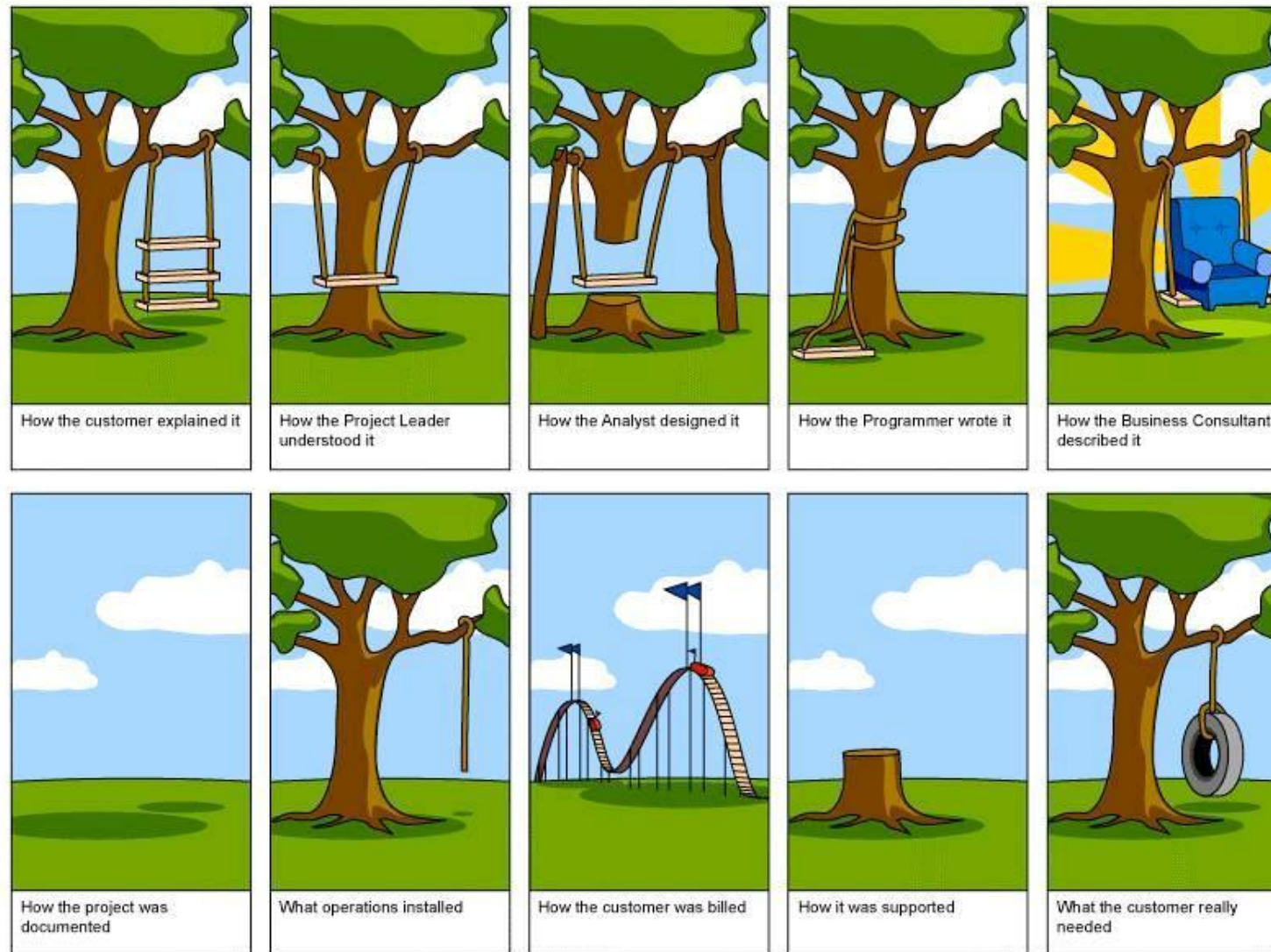


- Information Systems

- An arrangement of people, data, processes, information presentation and information technology to support and improve certain operations in a business.



# What is this course about?



# Main Contents of the Course

- Processes and important challenges in the development of IS
- Alternative forms of realization ("Make or Buy", Outsourcing, Software-as-a-Service, etc.)
- Process models for the development of IS (waterfall model, evolutionary development, agile software development)
- Concepts and forms of project management for IS development
- Project control and evaluation methods
- Time, team and project management

# Learning Goals

## ■ **Students...**

- ... recognize the challenges of the development of information systems (IS).
- ... evaluate, select and apply different process models for the development of IS according to their advantages and disadvantages.
- ... understand traditional and new, agile, information systems development (ISD) process models.
- ... assess, select and apply the different organizational forms of project management for the development of IS based on their respective strengths and weaknesses.
- ... are aware of the dangers of time pressure in IS development projects and are in a position to take appropriate countermeasures.
- ... develop solutions in small groups and present them in the plenum.
- ... develop a project solution to a specific ISD problem in small groups.

# Teaching Team

## Lecturer



- **Dr. Janek Richter**
- Email: [janek.richter@wiso.uni-koeln.de](mailto:janek.richter@wiso.uni-koeln.de)
- Visiting hours: by appointment via email request

## Tutor / Main Unit Contact



- **M.Sc. Christian Hovestadt**
- Email: [hovestadt@wiso.uni-koeln.de](mailto:hovestadt@wiso.uni-koeln.de)
- Visiting hours: by appointment via email request

# How this Unit Fits

- Bachelor Wirtschaftsinformatik (PO 2015)
  - Modul Name: *Ergänzungsmodul Wirtschaftsinformatik II (1277BEWIF2)*
  - Unit Name: *Information Systems Development*
  - 6 ECTS Credit Points

# Recommended Sequence for the Information Systems Bachelor Courses

1 <sup>st</sup> Semester (Winter)	Information Systems Management [Basismodul Wirtschaftsinformatik I]	AND	Database Systems [Basismodul Wirtschaftsinformatik II]
2 <sup>nd</sup> Semester (Summer)	Integrated Information Systems [Aufbaumodul Wirtschaftsinformatik]		
3 <sup>rd</sup> Semester (Winter)	Systems Analysis & Design [Ergänzungsmodul Wirtschaftsinformatik I]	OR	Informationssicherheit & IT-Forensik [Ergänzungsmodul Wirtschaftsinformatik I]
4 <sup>th</sup> Semester (Summer)	Information Systems Development [Ergänzungsmodul Wirtschaftsinformatik II]	OR	Introduction to Data Science and ML [Ergänzungsmodul Wirtschaftsinformatik II]
5 <sup>th</sup> Semester (Winter)	Capstone Project Information Systems [Schwerpunktmodul Wirtschaftsinformatik]	AND	Bachelor Seminar
6 <sup>th</sup> Semester (Summer)	Bachelor Thesis		

*We strongly recommend completing the courses from the 1st-4th semester **before** proceeding with the Capstone Project and the Bachelor Thesis.*



# Our Chair's Teaching Offerings

	Winter Term	Summer Term
PhD		<p>PhD Course (not offered in every year)</p>
Master	Master Thesis	
	<p>Sustainable Digital Innovation Lab [Schwerpunktmodul Information Systems I]</p>	<p>Advanced Seminar IS &amp; Digital Technology [Schwerpunktmodul Seminar Information Systems I/II]</p>
	<p>IS and Environmental Sustainability [Basismodul Information Systems I]</p>	<p>IT Entrepreneurship [Schwerpunktmodul Information Systems II]</p>
Bachelor	Bachelor Thesis	
	Bachelor Seminar Information Systems & Digital Technology	
	<p>Systems Analysis and Design [Ergänzungsmodul Wirtschaftsinformatik I]</p>	<p>Information Systems Development [Ergänzungsmodul Wirtschaftsinformatik II]</p>



# COVID-19 Teaching Situation

We currently plan to return to full physical teaching in the summer term 2022. This plan is reflected on the following slides. However, we are still awaiting an official announcement from the faculty on that matter, so we will prepare for online and hybrid teaching scenarios in the background.

For most recent updates, please see the course homepage:

<https://is4.uni-koeln.de/en/teaching/bachelor-modules/information-systems-development>

# Lecture Format

## Interactive Lecture Sessions:

- You should prepare lecture materials in preparation
- We aim to keep lectures **interactive** by involving you in discussions
- We discuss case examples and answer your questions

## Guest Lecture Sessions:

- In one or two special lectures, we invite **practitioners as lectures** to give you additional perspectives on the course's topics

## Self-study Materials:

- All lecture slides and videos are available in ILIAS
- There are also additional materials, such as readings or external videos.
- The textbook will help you gain additional understanding of the course's topics.
- Materials are available in ILIAS.

# Tutorial Format

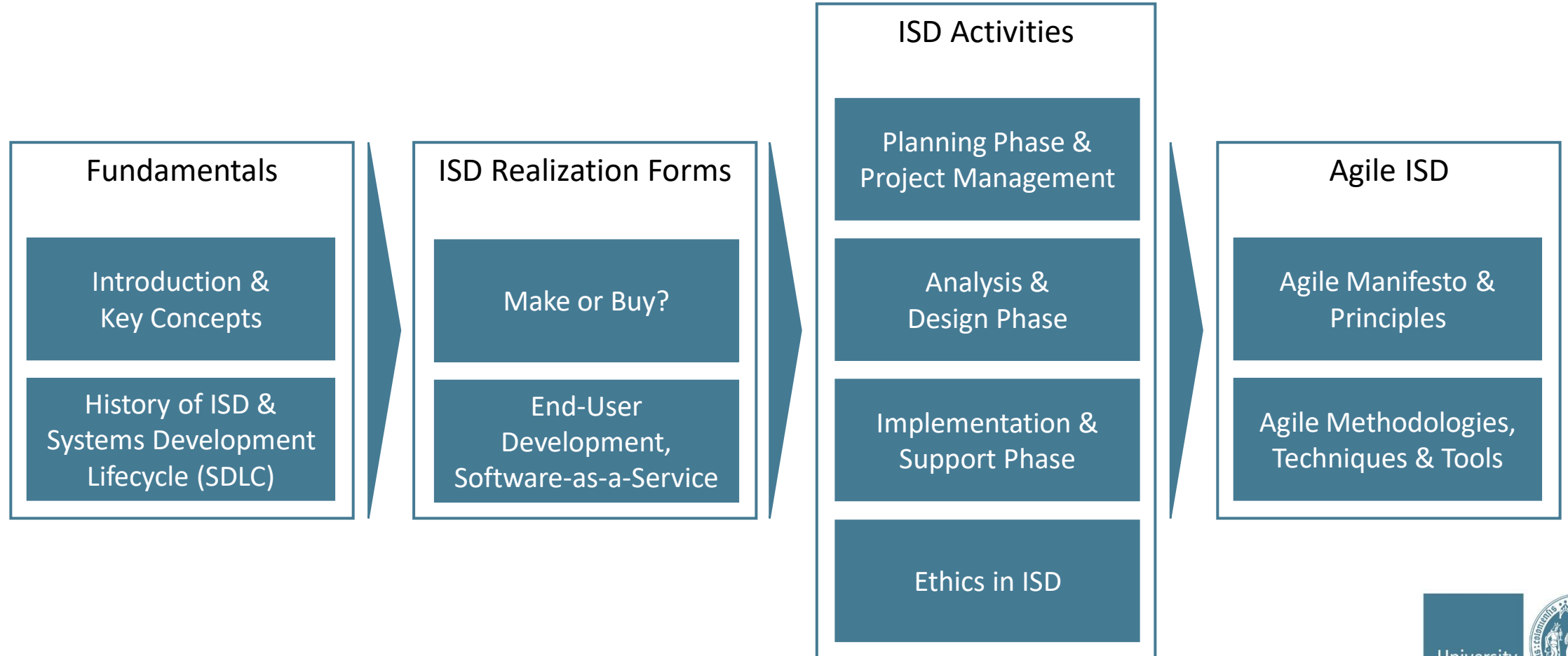
## Recap Sessions (for most units):

- Testing your understanding of the lecture's contents
- We created an **ILIAS exercise set** for each content section
  - No need to prepare them in advance, but feel free to do so
  - We discuss a selection of those exercises in the session, you can use the rest to prepare for the exam
  - You can ask questions about the exercises we did not discuss
- We will do an **interactive Kahoot Quiz** for you to check your learning progress
  - We will also post a link to the Kahoot quizzes in ILIAS after each recap session

## Workshop Sessions (for selected units only):

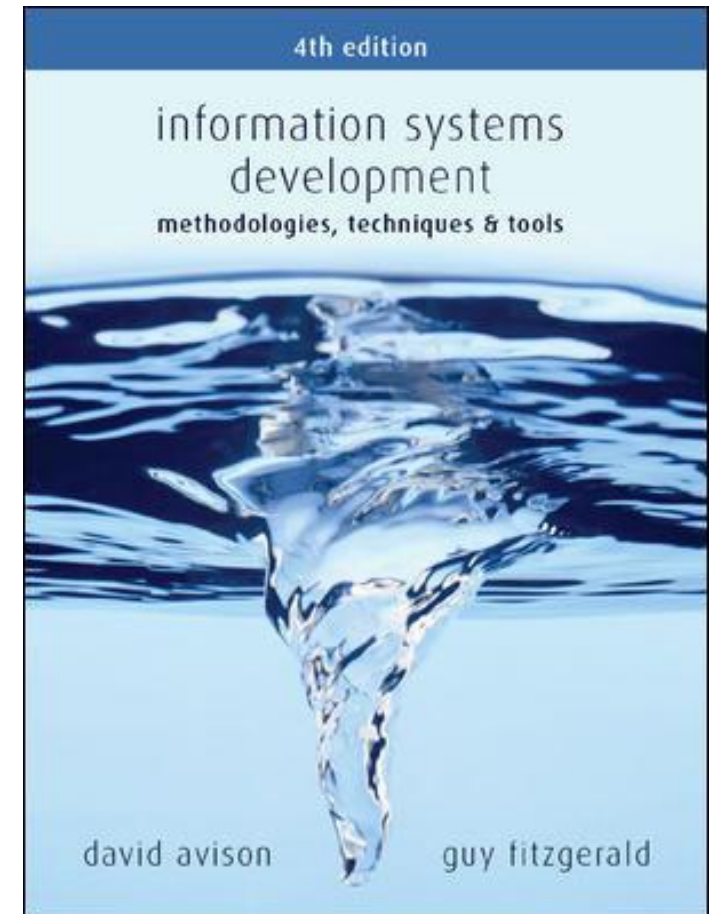
- We use these sessions to **deepen your understanding** of the contents by transferring it to other contexts
- We will discuss case studies or larger scale exercises

# Course Structure



# Course Reading

- Information Systems Development
  - 4th edition
  - by David Avison and Guy Fitzgerald
  - Published: 2006, McGraw-Hill
  - ISBN: 9780077114176
- **Relevant reading parts available in ILIAS**
- 15 copies available for rental at the Main University Library & reference copy at “Winfo Bib”  
<https://www.ub.uni-koeln.de/usbportal?query=inst001:7844519>  
<http://informatikbibliothek.uni-koeln.de/>



# Session Times & Locations

## Thursday Sessions (usually Lectures):

- 2:00pm – 3:30pm
- Room S11, building 106 (*Seminargebäude*)

## Friday Sessions (usually Tutorials):

- 10:00am - 11:30am and 12:00pm - 1:30pm (\*)
- Room S261, building 118 (*Mensa Zülpicher Straße*, top floor)

(\*) There will only one tutorial session (and one lecture session) per week on average. To give us more scheduling flexibility, we reserved a second weekly slot on Fridays, but not all the slots will be used each week. The exact schedule will be announced in time before the semester starts.

# ILIAS

- All course materials are **shared through ILIAS**
- **ILIAS keeps you updated** and informed, e.g.:
  - **News** about the course.
  - **Deadlines** for submissions.
  - **Offers from industry** partners (folder opportunities).
  - Activate message forwarding to your email inbox
- **If you are not yet a member** of the ILIAS course, ...
  - **enroll yourself** to the course via KLIPS2 (you will be automatically added to the ILIAS course on the next day)
  - If you encounter problems, please contact [hovestadt@wiso.uni-koeln.de](mailto:hovestadt@wiso.uni-koeln.de)



# Assessment

Portfolio exam consisting of 2 components:

- 1) IS Development Solution (50 points)
  - 2) eExam (50 points)
- *You will be assessed against your total achieved score (max 100 points)*
  - *You pass the module when achieving at least 50 points*

# 1) IS Development Solution (50 points)

In a team of 4-5 students, you develop a small-scale information system solution for a selected purpose or business problem. You will need to identify a business problem or opportunity, decide on key questions regarding the development of an IS-enabled solution to the problem or opportunity, and specify the development process in sufficient details. Finally, you will present your results in a poster slam.

- Teams of 4-5 members
- Due date: **14<sup>th</sup> July 2022**, 11:55pm, via ILIAS
- Poster slam: **15<sup>th</sup> July 2022**, 10:00am-1:30pm, Room S261
- *Assignment details are available in ILIAS!*

## 2) eExam (50 points)

We assess your individual theoretical knowledge of content of the lecture and the tutorial in an electronical exam.

- Worth 50 points (length TBA)
- Individual assessment
- You can choose between one of these dates in an ILIAS survey:
  - Date 1: **TBA**
  - Date 2: **TBA**
- Location: TBA
- Exam Q&A session: 15 July 2022
- *Further details are available in ILIAS!*

# Exam Registration

- Regardless of the day you want to write the eExam, you must register for the **same portfolio exam in KLIPS**. The exam registration in KLIPS is **different from the course registration!** Exam Registration in KLIPS is mandatory to complete the course.
  - **Deadline:** 24<sup>th</sup> April 2022 (11:59pm)
- Additionally, you need to fill out two **surveys in ILIAS**:
  - **Team Registration Survey:** Specify your team name for the team project
    - Try to find a team of motivated students you want to work with
    - Pick a unique team name that you all specify in your individual surveys
    - It is not an issue if you are less than 5 students, we will merge smaller teams after the survey deadline
    - If you do not specify a team name (but register in KLIPS), we assign you to a random team
    - **Deadline:** 24<sup>th</sup> April 2022 (11:55pm)
  - **Online eExam Registration Survey:** Specify the day you want to write the Online eExam
    - Switching the exam date after the survey deadline is not possible
    - If you register for the first date and get sick on the day of the exam, you may still write the eExam on the second date if you submit an attest from a doctor to us
    - If you don't submit the survey (but register in KLIPS), we assign you to the first exam date
    - **Deadline:** 30<sup>th</sup> June 2022 (11:55pm)

# Group Formation: FAQ

- *“Can we form a group of more than five people?”*
  - Groups are limited to five students, no exceptions.
- *“We are less than five people in our group. What can we do?”*
  - Simply register your group in the survey, we will merge smaller groups after the survey deadline. We will make sure that there are no less than four people in any of the final groups.
- *“I cannot find a group.”*
  - Simply fill out the survey without specifying a team name. We will assign you to a random group after the survey deadline.

# Volume

- The course is awarded with **six credit points**, equivalent to 180 semester working hours (SWH; 1 SWH = 45 minutes)
  - As a **rule of thumb**, we expect you to invest around 12 SWHs on a weekly basis in total
  - That includes physical attendance in the sessions (4 SWHs), self-study (~5 SWHs), and work on the team project (~3 SWHs)
- Try to optimize your time spent on learning:
  - **Use the book** for reading about topics you find hard to understand
  - **Write your own summaries** early in the semester, you will already remember large parts of them after writing them *in your own words*
  - **Optimize your team project progress** by dividing tasks within the team and establishing your own coordination processes

# How to Succeed

Please familiarize yourself with, and monitor...

## The Unit

- Unit content
- Learning goals
- The syllabus

## The Involved People

- Yourself
- Your Project Team
- The Teaching Team

## The Course Offerings

- Self-study materials
- Readings
- Take part in the lecture & tutorial sessions

## The Assessments

- Requirements
- Due dates
- Marking scheme
- Tips in lectures & tutorials



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