

# Requirement Engineering

## Lecture 0: Organization

Prof. Dr. Benjamin Leiding  
M.Sc. Anant Sujatanagarjuna

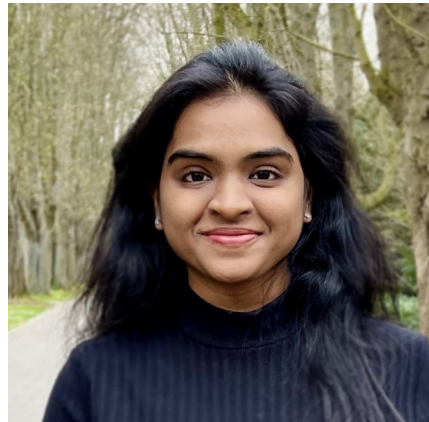
## Team



Prof. Dr. Benjamin Leiding



M.Sc. Anant Sujatanagarjuna



B.Sc. Nisha Muthuraju

## Research Group

- **E**merging **T**echnologies for the **C**ircular **E**conomy → **ETCE**
- Research focus:
  - Intersection of IT and sustainability
  - Circular Economy and Circular Societies
  - Self-organized, decentralized and distributed systems
  - Localized and resilient food production
- Other courses:
  - Emerging Technologies for the Circular Economy (SS – M.Sc.)
  - The Limits to Growth – Sustainability and the Circular Economy (WS – open for everyone)

## Research Group

- Website – [Link](#)
  - Course material
  - Thesis/project topics
  - Publications
  - Etc.
  
- Our research in action:
  - ZDF documentary (German) – [Link](#)
  - Klartext Preis 2020 (German) – [Link](#)
  
- You want join us? Write us an email!  
→ [benjamin.leiding@tu-clausthal.de](mailto:benjamin.leiding@tu-clausthal.de)

## Course Content

- Core terminology and core tasks of requirements engineering
- Requirements engineering process
- Elicitation techniques
- Documentation methods
- Textual, model-based and formal requirements specification
- Requirements negotiation
- Requirements Management
- Traceability
- Requirements validation and quality assurance

## Learning Outcome

- Core terminology and core tasks of requirements engineering
- Understanding of the requirements engineering process
- Ability to choose, justify and apply appropriate methods and techniques for each step of the requirements engineering process given project constraints and properties

## Disclaimer

- The course is modelled and built based on the book „*Requirements Engineering – Fundamentals, Principles and Techniques* (2010)” from Klaus Pohl
- Special thanks to Prof. Dr. Steffen Herbold and Dr. Christian Bartelt, who provided valuable input in the form of the teaching materials of their requirements engineering courses.

## Course Content

Requirements Engineering					
Requirements Analysis				Requirements Management	
Elicitation	Negotiation	Documentation	Validation	Change Management	Tracing



# Lectures

Week	Date	Lecture	Location
1	30.10.2023	Organization (L00)	BBB (Online+LIVE in Gotec)
2	06.11.2023	Introduction (L01)	MOOC
3	13.11.2023	System Context/Boundaries and Types of Requirements (L02)	MOOC
4	20.11.2023	Elicitation (L03 + L04), Negotiation (L05)	MOOC
5	27.11.2023		
6	04.12.2023	Documentation – Introduction (L06), Documentation – Textual Requirements Specification (L07)	MOOC
7	11.12.2023		
8	18.12.2023	Documentation – Model-based Requirements Documentation (L08), Documentation – Formal Requirements Specification (L09)	MOOC
9	08.01.2024		
10	15.01.2024	Requirements Validation (L10)	MOOC
11	22.01.2024	Requirements Management (L11)	MOOC
12	29.01.2024	Requirements Traceability (L12)	MOOC
13	05.02.2024	Tool Support (L13)	MOOC
14	12.02.2024	-- No Lecture --	
15	26.02.2024	Exam Q&A	BBB (Online+LIVE in Gotec)

## Exercises

Publication Date	Submission Deadline	Exercise
13.11.2023	20.11.2023	E01 – Knowledge Test (MC)
27.11.2023	11.12.2023	E02 – Elicitation I, E03 – Elicitation II
18.12.2023	08.01.2024	E04 – Agent-Oriented Modeling
08.01.2024	22.01.2024	E05 – CPN I, E06 – CPN II
22.01.2024	29.01.2024	E07 – Management
29.01.2024	05.02.2024	E08 – Traceability
04.12.2023	15.01.2024	EXX – Bonus Task (Not-Mandatory)

## Course Organization

- Organization of the lecture:
  - Massive Open Online Course (MOOC) style asynchronous learning: [re.etce-lab.de](https://re.etce-lab.de)
  - Course content is mainly delivered as pre-produced learning material.
  - Slides are additionally available via Github ([Link](#))
  - Exercise / Q&A Session live streams (BBB - next slide) and Goslar
  - Exercise time slots = Time for questions and eventual tutorials related to the exercises
- Questions? Write us an email: [etce-re@tu-clausthal.de](mailto:etce-re@tu-clausthal.de) ← **We will only respond to emails written to this specific email address!**

## Dates/Times/Locations

- Lecture:
  - Monday **2:15 pm to 3:45 pm** (Berlin time) – **30.10.2023** to **12.02.2024**
  - Location: Goslar Gotec (Am Stollen 19 C, 38640 Goslar, Germany) or via BigBlueButton ([Link](#))
  
- Exercise / Q&A:
  - Monday **4 pm to 5:00 pm** (Berlin time) – **06.11.2023** to **12.02.2024**
  - Only via BigBlueButton ([Link](#))

## Exercises

- Organization of the exercise:
  - Individual work → **no** group submissions
  - Multiple-Choice or practical tasks
  - 7-14 days to submit (depending on the task)
  - Submission deadline is always Monday at 1:59pm (right before the next lecture period)
  - **Submission of each exercise is mandatory**

## Exercises

- Multiple-choice exercises: Self-evaluated, available directly on the MOOC website.
- Practical Tasks: Submitted via Moodle.
- Bonus task:
  - You may miss/fail one of the regular practical exercises
  - Submitting **AND** passing the bonus task substitutes the missed/failed exercise
  - **Bonus task will be very difficult** → don't "plan" with the bonus task. Rather submit and pass the regular exercises.

# Examination

- **Prerequisites** for admission to the final exam (**all** criteria have to be fulfilled):
  - Successful completion of the compulsory seven exercises
    - You pass an exercise if you score 50% (or more)
    - You have to submit **every** exercise
  
- **Final exam:**
  - 04.03.2024 → 14:00 – 16:00
  - Written exam (120min)

## Self-Study Star

Self-Study Star → 

- Slides with the self-study star indicate optional/additional study material that is **not** mandatory but could be helpful for your future career
- Of course it won't hurt to have extra knowledge to impress us during the examination ;)



## Literature

- This course is not based on a single book and you **do not** need to buy a book to pass the exam.
- K. Pohl. *Requirements Engineering – Fundamentals, Principles and Techniques* (2010).
- K. Pohl, C. Rupp. *Requirements Engineering Fundamentals: A Study Guide for Requirements Engineering Foundation Level* (2011).
- J. Dick, E. Hull, K. Jackson. *Requirements Engineering (4<sup>th</sup> Edition)* (2017).
- Chris Rupp et al. *Requirements Engineering und Management – Das Handbuch für Anforderungen in jeder Situation (7th Edition)* (2021).

# Questions?