Requirement Engineering

Lecture 0: Organization

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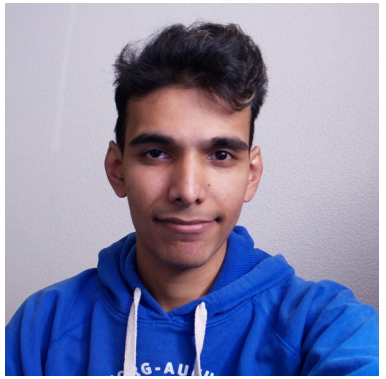
Team

Prof. Dr. Benjamin Leiding



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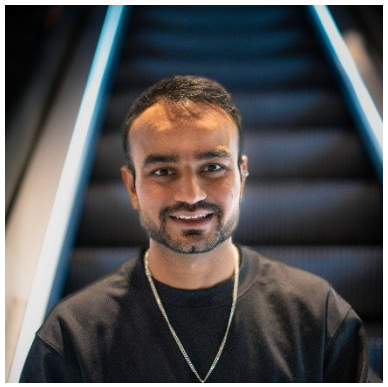

M.Sc. Chintan Patel

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
  - Sustainable 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

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 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	03.11.25	Organization	BBB (Online)
2	10.11.25	Introduction	MOOC
3	17.11.25	System Context/Boundaries and Types of Requirements	MOOC
4	24.11.25	Eliciation I & II	MOOC
5	01.12.25	Negotiation	MOOC
6	08.12.25	Documentation – Introduction	MOOC
7	15.12.25	Documentation – Textual Requirements Specification	MOOC
8	05.01.26	Documentation – Model-based Requirements Documentation	MOOC
9	12.01.26	Documentation – Formal Requirements Specification	MOOC
10	19.01.26	Requirements Validation	MOOC
11	26.02.26	Requirements Management	MOOC
12	02.02.26	Requirements Traceability	MOOC
13	09.02.26	Tool Support	MOOC
14	16.02.26	Exam Q&A	BBB (Online)

Exercises

Publication Date	Submission Deadline	Exercise
17.11.2025	24.11.2025	E01 – Knowledge Test (MC)
01.12.2025	08.12.2025	E02 – Elicitation I, E03 – Elicitation II
05.01.2026	12.01.2026	E04 – Agent-Oriented Modeling
12.01.2026	19.01.2026	E05 – CPN I, E06 – CPN II
26.01.2026	02.02.2026	E07 – Management (MC)
02.02.2026	09.02.2026	E08 – Traceability (MC)

Course Organization

- Organization of the lecture:
  - Massive Open Online Course (MOOC) style asynchronous learning: 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)
  - Exercise time slots = Time for questions and eventual tutorials related to the exercises

    - Questions? Write us an email: etce-re@tu-clausthal.de ← **We will only respond to emails written to this specific email address!**

Dates/Times/Locations

- Lecture:
  - Monday **2:00 pm to 3:30 pm** (Berlin time) – **03.11.2025** to **16.02.2026**
  - Location: MOOC and/or BigBlueButton (Link)

- Exercise / Q&A (Bi-Weekly):
  - Monday **4:00 pm to 5:00 pm** (Berlin time) – **03.11.2025** to **09.02.2026**
  - Location: 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 (except for the MC exercises)**

Exercises

- Multiple-choice exercises:
  - Self-evaluated, available directly on the MOOC website.
  - Multiple-choice exercises are **NOT GRADED** and not part of your exam eligibility.
- Practical Tasks: Submitted via Moodle.

Examination

- **Prerequisites** for admission to the final exam (**all** criteria have to be fulfilled):
  - Successful completion of the compulsory five exercises
    - You pass an exercise if you score 50% (or more) of the exercises that are not MC exercises
    - You have to submit **every** exercise (except for the MC exercises)

- **Final exam (tentative):**
  - 02.03.2026 → 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 (4th Edition)* (2017).
- Chris Rupp et al. *Requirements Engineering und Management – Das Handbuch für Anforderungen in jeder Situation (7th Edition)* (2021).

Questions?