

Requirement Engineering

Lecture 0: Organization

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Team



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Research Group

- **Emerging Technologies for the Circular Economy → ETCE**
- Research focus:
 - Intersection of IT and sustainability
 - Circular Economy and Circular Societies
 - Self-organized, decentralized and distributed systems
 - Localized and resilient food production → watch our mushrooms! ([Link](#))
- Other courses:
 - Emerging Technologies for the Circular Economy (SS – M.Sc.)
 - The Limits to Growth – Sustainability and the Circular Economy (SS – 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

- 26.10.2022 → No lecture
- 02.11.2022 → Organization (L00) + Introduction (L01)
- 09.11.2022 → System Context Boundaries and Types of Requirements (L02)
- 16.11.2022 → Elicitation – Part 1 (L03)
- 23.11.2022 → Elicitation – Part 2 (L04) and Negotiations (L05)
- 30.11.2022 → Documentation – Introduction (L06)
- 07.12.2022 → Documentation – Textual Requirements Specification (L07)
- 14.12.2022 → Documentation – Model-based Requirements Documentation (L08)
- 21.12.2022 → Documentation – Formal Requirements Specification (L09)
- 11.01.2023 → Validation (L10)
- 18.01.2023 → Traceability (L11)
- 25.01.2023 → Requirements Management (L12) and Tool Support (L13)
- 01.02.2023 → No lecture
- 08.02.2023 → Exam Q&A

Exercises

- 09.11.2022 → Exercise 01 – Knowledge Test (MC)
- 23.11.2022 → Exercise 02 – Elicitation I
- 30.11.2022 → Exercise 03 – Elicitation II
- 14.12.2022 → Exercise 04 – Agent-oriented Modelling
- 21.12.2022 → Exercise 05 – Coloured Petri Nets I
- 11.01.2023 → Exercise 06 – Coloured Petri Nets II
- 18.01.2023 → Bonus Task
- 25.01.2023 → Exercise 07 – Management and Traceability (MC)

Course Organization

- Organization of the lecture:
 - Slides are available via Github ([Link](#))
 - Please report bugs!
 - Lectures and exercises live stream (BBB – next slide) and Goslar
 - No lecture recordings
 - 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:

- Wednesday **2:15 pm to 3:45 pm** (Berlin time) – **02.11.2022 to 08.02.2023**
- Location: Goslar Gotec (Am Stollen 19 C, 38640 Goslar, Germany) or via BigBlueButton ([Link](#))

- Exercise / Q&A:

- Wednesday **4 pm to 5:30 pm** (Berlin time) – **02.11.2022 to 08.02.2023**
- Location: Goslar Gotec (Am Stollen 19 C, 38640 Goslar, Germany) or 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 Wednesday at 1:59pm (right before the next lecture)
 - **Submission of each exercise is mandatory**

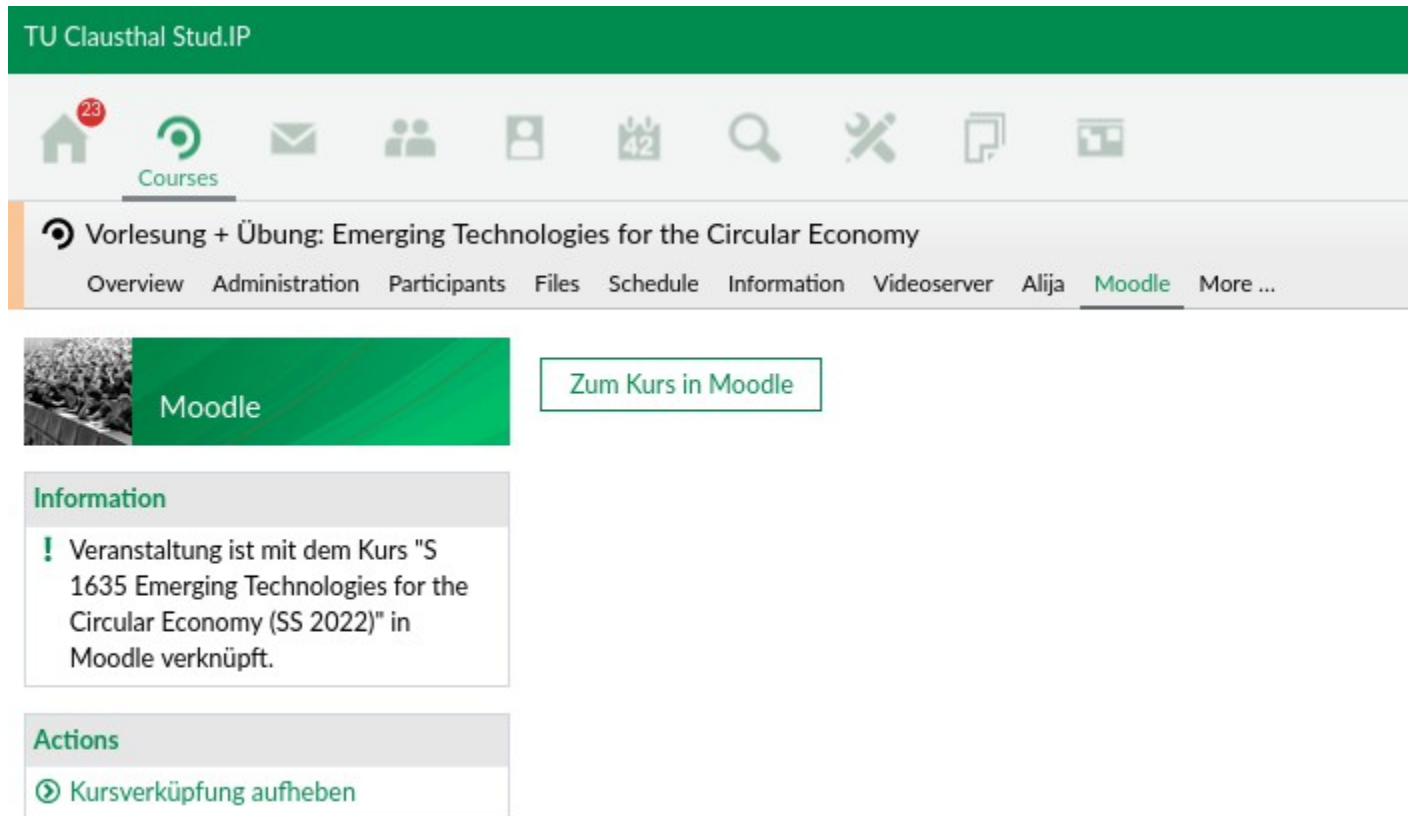
Exercises

- Bonus task:
 - You may miss/fail one of the regular 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.

Multiple-Choice Exercises

**TODO –
Update
images**

Step-1: Navigate to Moodle on your studip, select "Zum Kurs in Moodle"



The screenshot shows the TU Clausthal Stud.IP interface. At the top, there's a green header with "TU Clausthal Stud.IP". Below it is a navigation bar with icons for Home, Courses, Mail, Users, Profile, Calendar, Search, Tools, and Documents. The "Courses" icon is highlighted. Below the navigation bar, the course title "Vorlesung + Übung: Emerging Technologies for the Circular Economy" is displayed. Underneath the title is a menu with links: Overview, Administration, Participants, Files, Schedule, Information, Videoserver, Alija, Moodle (highlighted), and More ... Below this menu, there's a section for "Moodle" with a green background and a button labeled "Zum Kurs in Moodle". Below the Moodle section, there's an "Information" box with a warning icon and text: "Veranstaltung ist mit dem Kurs 'S 1635 Emerging Technologies for the Circular Economy (SS 2022)' in Moodle verknüpft." Below the information box, there's an "Actions" box with a link: "Kursverknüpfung aufheben".

Multiple-Choice Exercises

TODO –
Update
images

Step-2 : Select "Knowledge Quiz - Week 1"

S 1635 Emerging Technologies for the Circular Economy (SS 2022)

[Dashboard](#) / [My courses](#) / [S 1635 Emerging Technologies for the Circular Economy \(SS 2022\)](#) / [General](#) / [Knowledge Quiz: Week 1](#)

Knowledge Quiz: Week 1



Every student enrolled in ETCE course is required to take the Knowledge quiz in first two weeks of the course.

Those students who will score at least 50% of the maximum grade in each of these knowledge tests are allowed to take this course further.

Each quiz contains 25 multiple choice questions. Each question may have one or more correct answers. The student is required to select all correct answers provided in the options, to be able to gain full points for the question.

IMPORTANT : Incorrect choices will yield in negative points. An incorrect choice in a question will take away **just as many points** as a correct choice is awarded.

Attempts allowed: 1

The quiz will not be available until Wednesday, 20 April 2022, 5:00 PM

This quiz will close on Wednesday, 27 April 2022, 1:59 PM.

Time limit: 25 mins

[Preview quiz now](#)

Multiple-Choice Exercises

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images

Step-3 : Start your test if you are ready

... is required to take the Knowledge quiz in first two weeks of the course.

... a grade of ...

... question: ...

... for the question ...

... ect answer

Start attempt

Time limit

Your attempt will have a time limit of 25 mins. When you start, the timer will begin to count down and cannot be paused. You must finish your attempt before it expires. Are you sure you wish to start now?

Time limit: 25 mins

Multiple-Choice Exercises

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Update
images

Step-4 :

- A. Sequence of questions
- B. Timer running for the test

- C. Navigate to next question/Finish attempt
- D. Navigate to previous question

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Question **2**

Not yet answered

Marked out of 1.00

🚩 Flag question

⚙️ Edit question

Demo Question text

Select one or more:

☐ a. Option

☐ b. Option

Quiz navigation

1 2 | A

[Finish attempt ...](#)

Time left **0:24:40**

[Start a new preview](#)

[Previous page](#)

[Finish attempt ...](#)

D C

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)
 - You have to submit **every** exercise
- **Final exam:**
 - 22.02.2023 → 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?