EULIST Summer School 2027: Interdisciplinary Problem-Solving and Collaboration

organised by the ZQS/Key Competencies at Leibniz University Hannover

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Target group: Bachelor's and Master's students from all degree programmes at universities within the EULIST network, (20-25 students)

Focus on developing key competences:

1. **Problem-solving skills**
2. Collaboration and teamwork skills
3. Intercultural competence
4. Digital skills (as an implicit cross-cutting competence)

Learning objectives:

Overarching objective: Students deepen their understanding of an interdisciplinary approach to problems through the experience of working together in cross-disciplinary, intercultural groups on current issues.

Further learning objectives

- **Problem analysis**: Students are able to analyse, structure and contextualise problems (before developing a solution).
- **Creativity:** Students are introduced to a variety of problem-solving methods and are able to apply initial, diverse approaches to problem-solving.
- **Decision**-making: Students apply simple decision-making tools (e.g. through a modular 'Decision Toolbox') that combine qualitative, participatory and experimental methods.
- **Collaboration and interculturality: Students** work in interdisciplinary, international teams. They reflect on their roles, internal dynamics and, where applicable, biases.
- **Digital literacy:** They use collaborative tools and AI assistance in a considered, responsible and critically evaluative manner.

Method:

Problem-based learning:

- Students are introduced to the problem-based learning method and apply it in practice.
- Working in a small interdisciplinary group, they tackle a current issue relating to sustainability on the campus of Leibniz University Hannover.

Course details:

- Credit points: 3 ECTS

- Language: English
- Delivery:
    - Preliminary online sessions followed by face-to-face sessions on the LUH campus
    - Online sessions on 30 and 31 August 2027
    - Face-to-face session 6 September – 10 September 2027 (at the LUH main campus in Hanover): Mon–Fri, 10 am–5 pm each day
    - Involvement of teaching staff from LUH and EULIST universities→either online and/or in person
    - plus external speakers and stakeholders from the professional and business sectors in the Hanover area with a connection to the topic
    - Evening social programme
- Preliminary online meeting for all participants to discuss organisation, expectations, content, objectives and logistics
- A digital platform is required for organisation and document sharing

Possible programme schedule

Digital online sessions will take place on Monday and Tuesday, 30 and 31 August. Depending on the focus of study of the participating teaching staff, these may already cover parts of the workshop content outlined below. EULIST teaching staff are warmly invited to take on parts of the programme as teachers, both online and in person on the LUH campus. The programme outlined is flexible and subject to adjustment; it is, for the time being, merely a proposal. Further suggestions are most welcome.

Day 1, Monday, 6 September 27: Getting to know each other and introduction to the topic

Morning: **Arrival, getting to know one another, team-building**

- (Official) welcome / opening (ZQS/Key Competencies)
- Networking and team-building
    - For example, icebreakers: Speed Networking (with constraints): 5 x 5 mins with changing prompts in each round (drawing something, acting it out, describing oneself using metaphors, etc.) 'Soundtrack of Me': Each person shares 30 seconds of a song + 1 learning intention.
    - Reflecting on personal goals for the Summer School: Why am I taking part? What would I like to learn and achieve?
    - Presenting the week's programme and, where necessary, managing expectations
    - Learning journal?

Afternoon: **Problem analysis**

- Brief introduction to the Problem-Based Learning method
    - Transition to the meta-level / introduction to theory: types and criteria of problems, problem analysis approaches, for example:
        - Foresight and scanning methods (future-oriented)

- Participatory and user-centred (who is affected)
- Data- and evidence-based
- Systemic and visualisation-based (visualising problems)

- Presentation of the problems/tasks to be addressed: current sustainability issues on the LUH campus, collaboration with the Green Office
- Students learn about problem analysis methods and try them out: for example: Canvas; stakeholder mapping + problem interviews, problem tree, basic data analysis (others possible)

Evening: Welcome dinner.

<u>Day 2, Tuesday, 7 September 27 – Focus: creative problem-solving methods: How can we tackle and solve problems?</u>

Morning: Introduction to various creativity and innovation techniques, for example:

- Design Thinking, Innovation Lab, prototyping: paper/digital mock-ups, quick storyboards (others possible)

Afternoon: Applying the methods to your own problem

Evening: Maker Night, e.g. at the LUH Makerspace or at Hafven Hannover; alternatively: HorsePower, starting a business, student initiatives

<u>Day 3, Wednesday, 8 September 2027 – Decision-making for problem-solving: When faced with several options, how do I choose the right solution to a given problem?</u>

Presentation of aspects of problem-solving in practice

- Problem criteria and conflicting objectives
- Framework conditions / resources
- Cost-benefit heuristics versus weighing up benefits against ethical considerations.

  - Making group decisions when there are several possible solutions to a problem→ : participatory / democratic / hierarchical
  - Where applicable: Individual decision-making: What are my own interests, motivations and needs in relation to problem-solving?
  - Practical application to one's own issues on campus
- Evening: Free time with suggestions for leisure activities in Hanover

<u>Day 4, Thursday 9 September 27 – And Action: Applying and implementing problem-solving approaches</u>

Morning: Presentation of various methods for the practical application and implementation of problem-solving

- Operational implementation
  - Agile PM basics (Scrum, Kanban, etc.), milestones, risk and resource planning.
- Stakeholder engagement:

    - Role/interest analysis, communication with stakeholders
- Further….
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Afternoon:

- The student groups will have time to work independently on their problem statements using the methods listed above.
- If necessary, supplementary pitch training:
    - How to pitch an idea to a potential stakeholder
    - Storytelling, 'Why–What–How–Impact',
    - Visualising ideas
    - Practice: peer feedback

- Evening: regional cultural programme (e.g. English-language film, Herrenhausen Gardens) or intercultural potluck dinner.

Day 5, Friday 10 September 27 – Summarise, Reflect, Next Steps

Morning:

    - Looking back at Day 1: How does the solution developed fit the problem posed? How can this be assessed and evaluated? What are the next steps?

- Afternoon
    - Reflection on one's own experiences
    - Reflection on the intercultural experience and interdisciplinary collaboration
    - Next steps: Applying what has been learnt to student life back home, if interested. Discussing the topic: How can the group stay in touch, if interested?
- Awarding of credit points and conclusion