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HERITAGE INNOVATION

INDUSTRIAL HACKATHON

LCA e-learning Course



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Why life cycle assessment (LCA)?

Life Cycle Assessment (LCA) is a systematic methodology to evaluate the environmental impacts of a product, process, activity or service across its entire life cycle — from raw material extraction to end-of-life disposal ("cradle to grave").





Why life cycle assessment (LCA)?

- **Aligns with the alliance's focus on responsible universities** in coal & carbon-intensive regions — LCA is a core tool for just transition planning.
- **Builds cross-disciplinary competence** (engineering, architecture, social sciences) — ideal for a multi-university hackathon format.
- **Prepares students for EU Green Deal & taxonomy-aligned** professional practice.
- **Encourages hands-on, problem-based learning on real industrial sites with measurable outcomes.**





The goal of the LCA e-learning course

- Self-paced teaching on life cycle assessment (LCA) on an e-learning platform.
- Course(s) were developed within the Erasmus+ LIFE-C project, aimed for teaching and promoting life cycle thinking in higher education.
- The course **Introduction to life cycle thinking and assessment**, is aimed to introduce students with ISO 14040-14044 methodology for LCA with a practical assignment – a **review of the selected LCA paper or study**.





How to find the LCA e-learning course?

- The course is located on e-learning platform <https://multiasm.eu/mooc/login/index.php>.
- To join the course, you need to login, and enroll to the existing course Introduction to life cycle thinking and assessment.
- You can also find all of the instructions in the handy manual developed within the LIFE-C project!





Course organization

- The course consists of **6 blocks**, presenting the main points of the ISO framework on LCA.
 1. Introduction to LCT and Life Cycle Sustainability
 2. LCA, its Use Purposes and Regulation
 3. Goal & Scope
 4. Life Cycle Inventory
 5. Life Cycle Impact Assessment
 6. Interpretation; Sensitivity and Uncertainty





Course organization

- Each block consists of video and .pdf lectures, **as well as discussion forum, hands on tasks, and short quizzes** to check if the learning outcomes were achieved.
- The final assessment of the learning outcomes is achieved through the **Exam, and Assignment** presentation that will be carried out, during final in-person meeting.





Assignment description

- **The assignment is a short 5-10 min presentation** (.pptx, .pdf, or a video), describing key findings of the review of an already existing LCA study or report.
- **The choice of article is up to the students.** We highly recommend to search for the LCA and sustainability studies on e.g., industrial renovation, repurposing, adaptation and modernization!
- **The assignments can be prepared in a groups of 2-3 students.**
- Please make yourself familiar with Assignment brief file, explaining and listing useful questions and bullet checks to assist your work!





Course grading

- The grading details are described on an e-learning platform in the Course Introduction tab.
- Apart from the assignment, the students are also obliged to solve quizzes (**25 pts.**), participate in the discussion forum (**5 pts.**), and solve hands-on tasks (**20 pts.**) after each of the course section.
- Assignment grade is consisting of presentation (**33 pts.**), and Peer Review carried out by your fellow colleagues (**7 pts.**).
- Final exam is worth **10 pts.** - **Total score 100 pts.**





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**Thank you for your
attention!
See you on the platform!**



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