Life Cycle Assessment Course

Fundamentals & Applications

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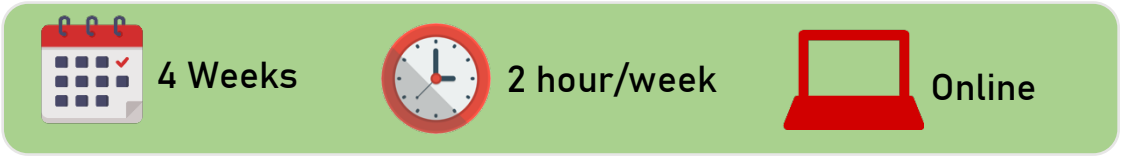
About this Course

- "Life Cycle Assessment: Fundamentals and Applications" is an online course offered by the Sustainability of Chemicals and Materials (SusCheM) group of the Aachen-Maastricht Institute for Biobased Materials (AMIBM), Maastricht University.
- This course is designed with an introduction to the concepts and principles of LCA
- Expert guidance on selecting the appropriate scope for the study, defining system boundaries, identifying data sources, and interpreting the results.
- A step-by-step guide on how to perform selected case studies in a dedicated section
- This course is designed for students, industry professionals, and others who want to familiarize themselves with the LCA and overall impact assessment.



Importance of Life Cycle Assessment

- Provides a comprehensive and systematic approach to evaluate the environmental impacts of products, processes and services throughout their life cycle, from raw material extraction to end-of-life disposal or recycling.
- Enables the comparison of different alternatives, ensuring a fair and transparent assessment.
- Supports the identification and implementation of improvement opportunities along the life cycle stages.
- Contributes to the integration of environmental aspects into decision-making and strategic planning, and to the alignment of environmental goals.

Key Takeaways

At the end of the course, participants will be able to;

- Recall the fundamentals of life cycle thinking
- Describe and understand what and why LCA is an important tool for sustainability
- Explain four standardized steps of an LCA study
- Explain what a functional unit is and give an example for a product or system
- Explain what defining system boundaries means
- Classify different types of allocation systems in LCA studies
- Summarize how environmental impacts are calculated in an LCA study
- Interpret the results of an LCA study
- Compare the results of different LCA studies for similar products or systems

Course Outline

- This course consists of four online sessions conducted through Zoom. The participation link will be provided before the start of the course.
- The lectures will be recorded and shared with all participants. If you prefer not to have your face recorded, you can turn off your camera during the sessions

- Session 1 – Introduction, sustainability assessment, and circularity

  Date: November 12th 14:00 – 16:00 (CEST Time Zone - Amsterdam, Berlin, Rome, Stockholm, Vienna)

Time	Content	Instructor
14:00 – 14:15	Welcome and introduction of the course	Dr. Pranav Nakhate
14:15 – 14:45	Sustainability Assessment	Prof. Dr. Yvonne van der Meer
14:45 –14:55	Open Session: Q&A	
14:55 –15:00	***Break***	
15:00 –15:50	Life Cycle Thinking and Circularity	Cris Garcia Saravia
15:50 – 16:00	Open Session: Q&A	
16:00	***End of the session***	

Session 2 – LCA methodology: Goal & Scope Definition and Life Cycle Inventory

Date: November 19th 14:00 – 16:00 (CEST Time Zone - Amsterdam, Berlin, Rome, Stockholm, Vienna)

Time	Content	Instructor
14:00 – 14:40	LCA framework (Part 1): Goal & Scope definition	Dr. Shweta Singh
14:40 – 14:50	Open Session: Q&A	
14:50 – 15:00	***Break***	
15:00 – 15:40	LCA Framework (Part 2): Life cycle inventory	Dr. Svetlana Obydenkova
15.40 – 16:00	Open Session: Q&A	
16:00	***End of the session***	

Session 3 – LCA methodology: Impact Assessment and Interpretation of Results

Date: November 26th 14:00 – 16:00 (CEST Time Zone - Amsterdam, Berlin, Rome, Stockholm, Vienna)

Time	Content	Instructor
14:00– 14:40	LCA framework (Part 3): Impact Assessment	Dr. Pranav Nakhate
14:40 – 14:50	Open Session: Q&A	
14:50 – 15:00	***Break***	
15:00 – 15:40	LCA Framework (Part 4): Interpretation	Dr. Manoj Kumar Nallapaneni
15.40 – 16:00	Open Session: Q&A	
16:00	***End of the session***	

Session 4 – LCA applications: Case studies

Date: December 03rd 14:00 – 16:00 (CEST Time Zone - Amsterdam, Berlin, Rome, Stockholm, Vienna)

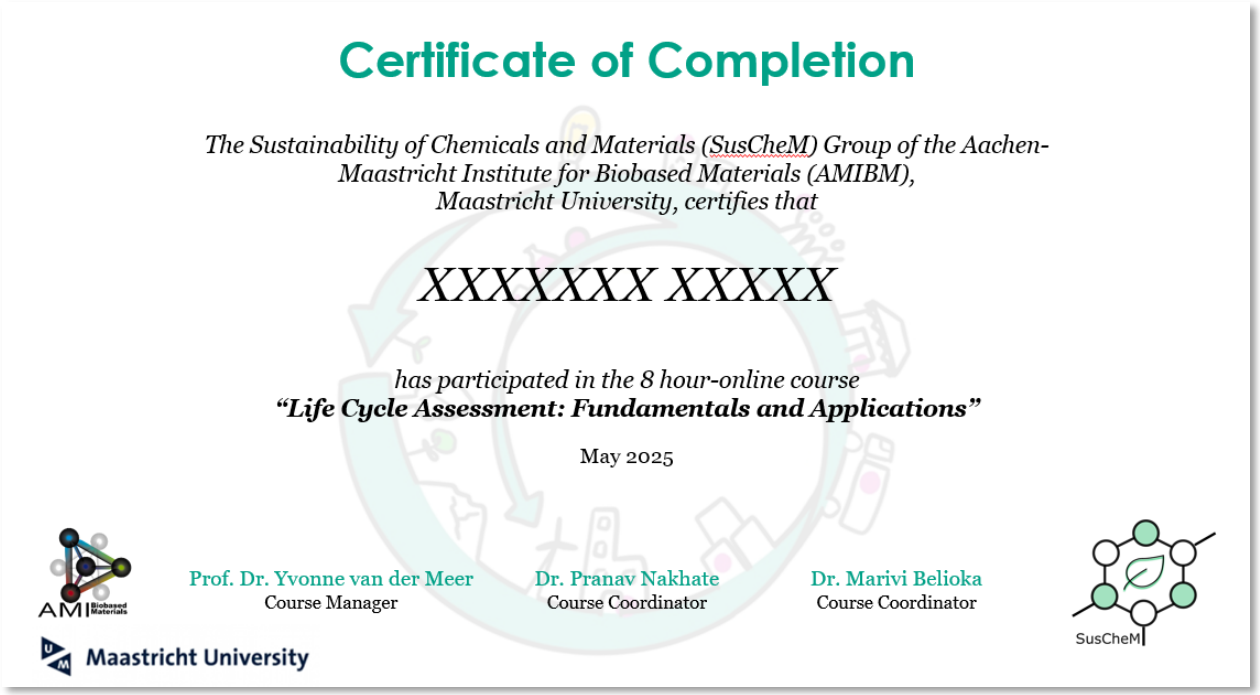
Time	Content
14.00	Presentations on how to develop an LCA case study
15.00	Break
15.05	Open session and Q&As
16.00	***End of the session***

Course Fee

Participant Category	Fee 2025
Industry Participant	€ 500
Non-Profits, PhDs, Academics	€ 350
Students (Limited spots)	€ 100

Completion Certificate

Participants who successfully completes the "*Life Cycle Assessment: fundamentals and applications*" online course will receive a certificate of completion which can be leveraged to advance their career and get further expert knowledge in Sustainability



Certificate of Completion

The Sustainability of Chemicals and Materials (SusCheM) Group of the Aachen-Maastricht Institute for Biobased Materials (AMIBM), Maastricht University, certifies that

XXXXXXX XXXXX

has participated in the 8 hour-online course
"Life Cycle Assessment: Fundamentals and Applications"

May 2025

Prof. Dr. Yvonne van der Meer
Course Manager

Dr. Pranav Nakhate
Course Coordinator

Dr. Marivi Belioka
Course Coordinator

AM Biobased Materials

Maastricht University

SusCheM

Participant's Experiences

"The course was excellently designed in such a way that even a beginner like me could grasp the concepts and even went through some interesting research articles for the same."

"An excellent opportunity to improve my LCA skills "

"I liked the scope of the content covered, which can be understood by beginners and is useful for practitioners".

"I enjoyed every section of the course. The course has given me a holistic introduction to LCA and a broader perspective on sustainability assessment."

"Clear lectures, good visualization and the nice discussion during the case studies "

"I liked the general overview of LCA. The structure of the content the slides were very useful "

Meet your Instructors

Prof. Dr. Yvonne van der Meer

Professor & Scientific Co-Director, AMIBM, Maastricht University

Expertise: *Biobased Economy, Circular Economy, renewable materials, Prospective & Ex-ante technology assessment, Public-Private cooperation*

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Cris García Saravia

PhD researcher, AMIBM, Maastricht University

Expertise: *Circular Economy, Value circles, Circularity indicators*

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Dr. Shweta Singh

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Expertise: *Decision making, Optimization techniques, Renewable Energy Technologies, Polymer composites*

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Dr. Pranav Nakhate

Assistant Professor, AMIBM, Maastricht University

Expertise: *Sustainability assessment, Hybrid wastewater treatment, Process intensification studies, Sustainability in Pharmaceuticals, Bioactive components*

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Expertise: *Sustainable Fuel Economy, Environmental Engineering, Techno-economic Assessment, Feasibility analysis*

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Dr. Manoj Kumar Nallapaneni

Post-doctoral researcher, AMIBM (Maastricht University)

Expertise: *Energy conversion; PV performance; Degradation; Energy Informatics; Internet of Things; Blockchain;*

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Let's build your LCA competency

Last date to register for the course is 31st October 2025

For more details, please visit http://lcatraining.nl

or send an e-mail to:

lcatraining_amibm@maastrichtuniversity.nl

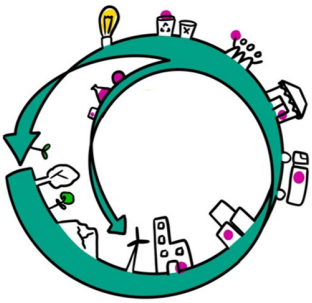

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Illustration by: Cris Garcia Saravia Ortiz de Montellano

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