# ADVANCED LCA

## CONSEQUENTIAL AND IO-BASED LIFE CYCLE ASSESSMENT

**ABOUT** The course strengthens skills in life cycle inventory analysis. It targets the development of advanced competences in LCA by applying the problem based-learning (PBL) teaching model that focuses on learning by doing and reflection and applying hybrid (online + onsite sessions) and flipped classroom approach where materials (readings, videos) are provided to the students in advance and the time spent in classroom/video-meeting is used for Q&A, hands-on exercises, discussions. Activities include intensive group work, problem defining and solving applied to real-word cases, practical exercises, and discussion sessions. The course content is organized in three modules.

**MODULE 1. CONSEQUENTIAL LCA** Students will learn the fundamentals of Consequential LCA. Topics covered: Introduction to attributional and consequential models. Algorithms for performing consequential LCA in the definition of functional unit, consumption mix, and identification of determining and dependent coproducts. Communicating consequential models. The module includes exercises.

**MODULE 2. STOCHASTIC LCA** In this hands-on module students will learn how to use the software Brightway2.5 for stochastic and other LCA simulations. Topics covered: Computational structure of LCA. Computer simulation and statistical approaches for uncertainty and sensitivity analysis in LCA. LCA reproducibility and data sharing. The module includes exercises.

**MODULE 3. INPUT OUTPUT LCA** Students will learn the fundamentals of Input-Output modelling. Topics covered: supply-use tables, multi-regional models and trade linking. Integrating process LCA and IO-analysis via hybrid LCA, tiered and embedded. The module includes exercises.

AALBORG UNIVERSITY

**DATES IN 2025**

**Online sessions CET**

25 March 10:00-12:00
27 March 10:00-12:00
08 April 10:00-12:00
10 April 10:00-12:00
22 April 10:00-12:00
24 April 10:00-12:00

**Onsite sessions in Aalborg, Denmark**

12-13-14 May

**PREREQUISITES** The target audience is academics (PhDs, postdoc, other) or professionals who already have basic experience with LCA and intend to bring their LCA competences to an advanced level. Basic experience means for example having carried out LCAs before or having prior knowledge of LCA theory.

**LECTURERS** Prof. Jannick Schmidt, Prof. Massimo Pizzol, Assoc. Prof. Søren Løkke, Assist. Prof. Agneta Ghose

**NOTE:** it is mandatory to attend both online and onsite sessions.

**ATTENDEE / PRICE**

**PhD students** @Danish University / Free
@ other affiliation / 4.500 DKK (600 EUR)
**Academics** (postdoc, professor, etc.) / 9.000 DKK (1200 EUR)
**Professionals** (consultancy, industry, etc.) / 18.000 DKK (2400 EUR)
*Prices do not cover meals or accommodation*

**APPLY** via google form 👇

https://forms.gle/ySAMUvbYNkYsCvMi9

**CONTACT & INFO** massimo@plan.aau.dk

AALBORG UNIVERSITET

The course is organized by The Technical Doctoral School of IT and Design, Aalborg University and Danish Centre for Environmental Assessment (DCEA) www.DCEA.dk , in collaboration with the International Life Cycle Academy (ILCA) www.ILCA.es