Valid from 2024.HS

Module description: Technology Assessment

Module Code	t.BA.EU.PM2.19HS
ECTS Credits	4
Language of Instruction/Examination	German
Organizational Unit	INE
Module Coordinator	Christian Zipper
Legal Framework	The module description is part of the legal basis in addition to the general academic regulations. It is binding. During the first week of the semester a written and communicated supplement can specify the module description in more detail.
Module Characteristic	Type 4* 4 lab lessons per semester week and half-class
Module Description	The PM2 (Technology Assessment) module includes, among other topics: -basics of life cycle assessment (ISO 14040/44) -Application of life cycle assessment methods to a specific case study (energy technology) using SimaPro® software -Presentation of the results (technical report and final presentation)
Module Content	• Basic principles of various life cycle assessment methods (ISO 14040/44; UBP; ReCiPe). • Application of life cycle assessment methods to a concrete case study using the software SimaPro® • Reflection on the results of the life cycle assessment (sensitivity analysis) • Documentation of the results of the life cycle assessment in a technical report (German or English) and in a final presentation (English)
Prerequisite Knowledge	https://gpmpublic.zhaw.ch/GPMDocProdDPublic/2_Studium/2_02_Grundlagen_Studium/T_CL_Modulauspraegungen_SM2025.pdf

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Learning Objectives (Competences)

Students...	Competencies	Taxonomies
You explain how technology assessment methods can be used to assess the timeframe of the conversion of energy systems, to predict the consequences of today's actions and to identify options for action.	F, M	K2, K3
You describe the rules and success factors of teamwork and apply them. You are actively and constructively involved in project meetings. In particular, You recognize problems in the team or project and address them constructively. You make a fair and transparent allocation of roles within the team. You reflect on your own behaviour and actions in relation to the role. You express constructive criticism (positive and negative feedback). You accept criticism and analyse its relevance. You address conflicts and deal with them in a solution-oriented way.	SO, SE	K5, K6
You define the project, manage it according to plan, and deal with variances. You plan the use of resources, the deadlines with milestones and responsibilities, as well as project communication and set appropriate priorities. You meet the deadlines of the project plan and deliver the agreed results.	SO, M, SE	K5
You will systematically analyse and structure the given problem (life cycle assessment of an energy technology). Recognise gaps in your knowledge and close them through efficient research and independent acquisition of knowledge. You will apply the methodological knowledge you have learnt (life cycle assessment method and life cycle assessment software) in a specific project. They draw correct conclusions and inferences from the data, interpret the results of the life cycle assessment, compare them with other energy technologies and explain the differences. They interpret and use non-textual information (graphics, tables, diagrams, etc.) correctly. They present their results in linguistically correct technical reports appropriate to the target group, observing the most important rules of scientific writing (above all correct references, transparent and comprehensible argumentation). They present the results of the LCA orally in English in a target-oriented manner.	F, M, SE, SO	K3, K4, K5, K6

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Performance Assessment

End-of-module exam	Assessment	Length (min.)	Weighting	Form
oral exam	Grade	15	20	acc. to module agreement

Performance assessment during the semester	Assessment	Length (min.)	Weighting	Form
report	Grade		50	acc. to module agreement
report	Grade		30	acc. to module agreement

Classroom Attendance Requirement

None

Learning material

- Klöpffer, W. & Grahl, B. (2009). Ökobilanz (LCA). Weinheim: Wiley-VCH Verlag GmbH & Co. KGaA. ISBN 9783527627158. https://doi.org/10.1002/9783527627158.

Comments