COURSE DETAIL

ECOTECH FUTURES: SUSTAINABILITY IN THE AGE OF INDUSTRY 4.0
Country Germany
Host Institution Technical University Berlin
Program(s) Technical University Summer
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Environmental Studies Engineering Computer Science Business Administration
UCEAP Course Number 114
UCEAP Course Suffix
UCEAP Official Title ECOTECH FUTURES: SUSTAINABILITY IN THE AGE OF INDUSTRY 4.0
UCEAP Transcript Title ECOTECH FUTURES
UCEAP Quarter Units 6.00
UCEAP Semester Units

4.00

Course Description

As industries worldwide transition toward sustainable practices, this course provides an introduction to the intersection of sustainability and Industry 4.0. It focuses on the design and development of innovative products and services with the tools to link emerging technologies with ecological responsibility. By combining theoretical foundations with hands-on project work, the course equips students to understand how emerging technologies — including digital modeling, artificial intelligence, Internet of Things (IoT), renewable energy, and advanced materials — can be leveraged to address pressing environmental and societal challenges. The course centers on Sustainable Prototype Challenge, in which students working in teams design a forward-looking product or service concepts. Through intensive assignments and workshops, participants apply principles of sustainable development, user-centered design, and technology-driven workflows to create a coherent final project. Deliverables include both a project prospectus and demonstrative materials (e.g., diagrams, mock-ups, or digital prototypes) that communicate the innovation’s environmental, functional, and social contributions, as well as feasibility. Students reinforce their learning through lectures, group critiques, and interdisciplinary collaboration. The course actively integrates perspectives from engineering, business, and design, preparing students to work across disciplines. In addition to gaining technical and creative skills, participants strengthen critical thinking, problem-solving, and communication abilities that are transferable to professional contexts.

Language(s) of Instruction
English

Host Institution Course Number

Host Institution Course Title
ECOTECH FUTURES: SUSTAINABILITY IN THE AGE OF INDUSTRY 4.0

Host Institution Course Details

https://www.tu.berlin/en/international/summer-school/summer-school/summer-schoo...

Host Institution Campus
TUBS

Host Institution Faculty

Host Institution Degree

Host Institution Department

Course Last Reviewed
2026-2027

Print