Vak: Elements of Energy Infrastructure — credits: 5

Vakcode	ELVB25EEI
Naam	Elements of Energy Infrastructure
Studiejaar	2025-2026
ECTS credits	5
Taal	Engels
Coördinator	P. Noordhuis
Werkvormen	Projectonderwijs
Toetsen	Elements of Energy Infrastructure - Schriftelijk, organisatie ToetsCentrum

Leeruitkomsten

Design
The starting professional considers various solutions in order to arrive at a detailed and well-founded (electro)technical product/service/process based on the program of requirements, using appropriate design methods and taking social interests and engineering standards into account.

Definition
The starting professional uniformly maps out a problem or customer need, places it in the right context, consults relevant sources and converts this into an objective, problem definition and electrotechnical requirements.

Inhoud

In this module, components within the energy infrastructure are studied in-depth, with their potential applications.

Professional Products

- Energy-technical specifications of a (sub)product – The technical characteristics and performance requirements related to the energy use, energy transfer, or energy generation of the product or component. This includes, for example, parameters such as power, efficiency, voltage, current, frequency, thermal properties, and compatibility with energy sources or systems.
  In this module: Reading and setting up component specifications for elements of the energy infrastructure

Skills

- Selection of power components – The process of choosing suitable electrical and electronic components, such as transformers, power electronics (IGBTs, MOSFETs), switches, and capacitors, based on requirements such as power, voltage, amperage, efficiency, thermal management, and reliability within an energy or power system.
- Selection of components for energy infrastructure – The process of choosing suitable electrical and mechanical components, such as transformers, switches, cables, inverters, and protection systems, based on technical requirements, capacity, reliability, durability, and regulatory compliance, in order to guarantee a stable and efficient energy system.

Knowledge

- Components of energy systems – The parts that work together to generate, convert, transport, distribute and consume energy. This includes energy sources (such as solar panels and wind turbines), converters (such as inverters and current and power transformers), storage (such as batteries), distribution networks (such as HV/LV cables and (HV) switches and fuses) and end-user equipment.

Opgenomen in opleiding(en)

Exchange Energy & Power Electronics (autumn)
Minor Energy & Power Electronics

School(s)

Instituut voor Engineering

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