Vak: Sustainable Fuel Systems Design — credits: 5

Vakcode	RWVM23SFSD
Naam	Sustainable Fuel Systems Design
Studiejaar	2026-2027
ECTS credits	5
Taal	Engels
Coördinator	J. Bekkering
Werkvormen	Onderwijs
Toetsen	Assignment 1 - Opdracht Assignment 2 - Opdracht

Leeruitkomsten

After completion of this module the student is able to:

1. define a research problem related to renewable energy supply chains
2. critically analyse relevant (scientific) literature
3. develop simulation models of energy systems, using appropriate methods and techniques, e.g. Material and Energy Flow Analysis (MEFA), Monte Carlo (MC)
4. understand optimisation methods for solving energy system problems, e.g. Linear Programming (LP) and Mixed Integer Linear Programming techniques (MILP)
5. explain the applicability, assumptions and limitations of energy system models
6. systematically report research question, methods, results, discussion and conclusions

Inhoud

- Supply chain concepts: Material Flow Analysis, Life Cycle Cost of Energy
- Sustainability: concepts, Primary Energy Input Output Ratio, greenhouse gas emission saving, well-to- wheel analysis (WTT, TTW, WTW)
- Theory on LP, MILP, sensitivity analysis, Monte Carlo
- MATLAB modeling

Opgenomen in opleiding(en)

European Master in Renewable Energy

School(s)

Engineering, Life Sciences & ICT

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