

Course: Sustainable Fuel Systems Design

credits: 5

Course code	ZVWH19SFSD	Modes of delivery	Tutorial
Name	Sustainable Fuel Systems Design	Assessments	Assignment 1 - Assignment
Study year	2022-2023		Assignment 2 - Assignment
ECTS credits	5		
Language	English		
Coordinator	J. Bekkering		

Learning outcomes

By completing the module the student demonstrates knowledge and understanding of:

- E2.1.a.1. problem definition in supply chain analysis*
E2.1.b.1 critical analysis of relevant literature and empirical background materials

And is able to:

- E2.3.a.1 formulate models of energy systems, using methods and techniques for energy systems*
E2.3.d.1 select an appropriate technique for modelling given energy problems, such as Linear Programming (LP) and Mixed Integer Linear Programming techniques (MILP)
E2.3.d.2 explain the underlying assumptions and limitations
E2.4.a.1 implement these models
E1.1.c.1 systematic report research question, methods, results, discussion and conclusions

Content

- 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

Included in programme(s)

European Master in Renewable Energy

School(s)

Institute of Engineering