

Vak: Assignment ASPEN Model

credits: 2

Vakcode	ZVWH20RAP	Werkvormen	Werkvorm 1
Naam	Assignment ASPEN Model	Toetsen	Design of an ASPEN Model - Overige toetsing
Studiejaar	2020-2021		
ECTS credits	2		
Taal	Engels		
Coördinator	C.B. Vogt		

Leeruitkomsten

The student who successfully completes this course will be able to:

- Demonstrate knowledge of the various types of biofuels and their capabilities/suitability to particular mobility applications and engines;
- Demonstrate understanding of end-use specifications (including purity, storage) for biofuels and how these relate to the processing of the biofuels from raw materials;
- Perform material and energy balances over sub-processes and processes involved in a bio-refinery using Aspen Plus;
- Model a biofuel production plant using Aspen Plus and calculate energy conversion efficiencies (and other relevant factors);
- Evaluate the business case of a modeled production facility which meets appropriate specifications for the produced bio-fuel.

Inhoud

The course is ultimately evaluated by means of a report evaluating the model and business case of a biofuel production facility or (whole) bio-refinery unit modeled by the student in Aspen Plus. The report should include a background on the biofuel produced and its (most significant) mobility application(s), the relevant end-use specifications of the product, the results of the model (including relevant material and energy balances), and a detailed economic evaluation of the model including a Discounted Cash Flow Rate of Return and determination of the break-even point.

Opgenomen in opleiding(en)

European Master in Renewable Energy

School(s)

Instituut voor Engineering