

Vak: Physics and Fuels

credits: 5

Vakcode	ZVWH19PAF
Naam	Physics and Fuels
Studiejaar	2021-2022
ECTS credits	5
Taal	Engels
Coördinator	C.B. Vogt

Werkvormen	Werkvorm 1
Toetsen	Lab - Opdracht Theory - Opdracht

Leeruitkomsten

Objective of the module / skills:

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

- E2.1.c.1 states and state transfer
- E2.1.c.2 combustion, heat transfer and fluid mechanics
- E2.2.a.1 gaseous energy carriers: hydrogen, biogas, green gas, CNG, CBG
- E2.2.a.2 liquid energy carriers: gas-to-liquid, ethanol, liquefied hydrogen, LNG
- E2.2.c.1 storage: parameters and technologies

And is able to:

- E2.4.a.1 model processes for fuel production with a focus on downstream
- E1.1.c.1 present an overview of the processes

Inhoud

Theory (4 EC):

- ideal vs real gas, equations of state, compressibility
- heat transfer
- cryogenics (Joule-Thomson)
- combustion technology (incl. engines and emissions)
- fuels (properties/flow/storage)
- additives
- compression
- storage

Lab (1 EC):

Aspen Plus

Opgenomen in opleiding(en)

European Master in Renewable Energy

School(s)

Instituut voor Engineering