Hanzehogeschool Groningen
University of Applied Sciences

Vak: Energy Technical Foundation — credits: 5

Vakcode	ZWVH18ETF
Naam	Energy Technical Foundation
Studiejaar	2021-2022
ECTS credits	5
Taal	Engels
Coördinator	A.A. Bellekom
Werkvormen	Hoorcollege
Toetsen	Assignment Numerical Modelling - Verslag Theory Electrical Eng + Energy Basics - Computer, organisatie ToetsCentrum

Leeruitkomsten

At the completion of this topic the student understands the basics of

- *heat transfer*
- *thermodynamics*
- *fluid mechanics*
- *electric circuit analysis*
- *electric power*
- *three phase systems*
- *electricity supply*
- *numerical modelling*

Inhoud

The technical foundation module consists of two separate courses.

1. Energy Basics/ Electrical Engineering (3EC)
In the first weeks of the semester students refresh their knowledge of the fundamentals of energy and power, heat transfer, thermodynamics and fluid mechanics. Attention is paid to the fundamental aspects of electrical engineering. Among others, these aspects comprise matters like circuit analysis, electric power calculations, three phase systems and electricity supply. This course serves as an introduction to the technical modules.

2. Numerical Modelling (2 EC)
In this course, the students are provided with an overview of different numerical methods that can be applied in the context of integrated energy systems. Specifically, data analysis methods, iterative and optimization methods will be discussed. For each of these methods the relevant properties will be studied. This information will allow the students to select appropriate methods to solve numerical problems based on the requirements dictated by the research context. An introduction to MATLAB and programming is also provided within this course.

Opgenomen in opleiding(en)

European Master in Renewable Energy

School(s)

Instituut voor Engineering