Vak: Adaptive Filters — credits: 5

Vakcode	SEVM21AF
Naam	Adaptive Filters
Studiejaar	2026-2027
ECTS credits	5
Taal	Engels
Coördinator	B.D. Williams
Werkvormen	Hoorcollege Projectonderwijs
Toetsen	Adaptive Filters - Opdracht

Leeruitkomsten

At the end of this module the student is able to:

- understand the link between Fourier analysis and the Z-transform.
- create and understand how a digital filter (FIR/IIR) works.
- clean data using advanced filtering techniques, including the Wiener filter, (normalized) Least-Mean-Square (LMS) adaptive filters, Recursive Least Squares (RLS) adaptive filters, and Kalman filtering.
- describe systems in the time-domain and/or frequency domain using stationary discrete-time stochastic processes and models, such as autoregressive (AR) and moving-average (MA) models.

Inhoud

The course covers the following topics:
Z-transform, FIR and IIR filters, stationary discrete-time stochastic processes and models, (normalized) Least-Mean-Square adaptive filters, Recursive Least Squares Adaptive Filters and Kalman filtering, model simulation tools, model-based reasoning.

Opgenomen in opleiding(en)

Smart Systems Engineering

School(s)

Engineering, Life Sciences & ICT

share your talent. move the world.

De ECTS onderwijscatalogus van de Hanzehogeschool Groningen wordt met de grootst mogelijke zorg samengesteld. Het is echter mogelijk dat de inhoud van de catalogus -en de daarin vervatte informatie- verouderd, incompleet of onjuist is. Aan de inhoud van de catalogus kunnen dan ook geen rechten worden ontleend.