Hanze

Course: Data Communication and Data Processing — credits: 15

Course code	ELVB25DCDP
Name	Data Communication and Data Processing
Study year	2026-2027
ECTS credits	15
Language	Dutch, with parts in English, English
Coordinator	B.D. Williams
Modes of delivery	Assignment Lecture Practical / Training
Assessments	Data communication theory - Computer, organised by STAD examinations Data processing theory - Computer, organised by STAD examinations Project definition - Assignment Realisation and advice - Assignment

Learning outcomes

Definition: The starting professional uniformly maps out a problem or customer need, places it in the right context, consults relevant sources and converts this into an objective, problem definition and electrotechnical requirements.

Realisation: The starting professional realizes and validates a (prototype of a) product/service/process based on an (electro)technical design and makes appropriate use of materials/techniques/instruments.

Advice: The starting professional presents and documents substantiated results in accordance with engineering standards, draws logical conclusions and gives advice on a (future) product/process/method in an electrotechnical context.

Content

Data is all around us. Data starts at the system that is producing it. This can then be observed and measured by some kind of instrument. But the measuring device is likely to be influenced by other factors as well, introducing noise in the signal. And the device itself has its own limitations, accuracy, etc.

Once data has been obtained, it has to be digitized and transmitted from the measuring device to a CPU using different protocols, wired or wireless.

At the CPU side, the signal can be stored in a database, analysed and filtered. This information can be analysed with different visualisation or statistical techniques. It is this information and hence knowledge about the system that is the ultimate goal – in order to advise the user about what is happening in the system so that (s)he can use their expert knowledge and take any action deemed necessary.

Included in programme(s)

Electrical Engineering Major Mechatronics
Electrical Engineering Major Sensors & Smart Systems
Electrical Engineering Major Energy & Power Electronics

School(s)

Engineering, Life Sciences & ICT

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