Course: Digital Electronics — credits: 5

Course code	ELVP22DE
Name	Digital Electronics
Study year	2026-2027
ECTS credits	5
Language	Dutch, with parts in English, English
Coordinator	J.J. Dallinga
Modes of delivery	Problem-based learning
Assessments	Digital Electronics - Assignment

Learning outcomes

Designing

The student considers various solution directions to arrive at a detailed and well-founded electrical engineered product/service/process based on the program of requirements, using appropriate design methodologies and taking into account societal interests and engineering standards.

Realizing

The student realizes and validates a (prototype of) a product/service/process based on a technical design, using the appropriate materials/techniques/instruments.

Content

This course focuses on a variety of topics. Based on simulations, solutions are chosen in the digital domain, namely in TTL technology, microprocessor, or FPGA.

Furthermore, students work on designing and building a combinatoric circuit using Karnaugh maps and Boolean algebra, state machines with hardware, shift registers and counters using standard memory elements, and memory circuits with combinatoric logic.

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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