Course: Chemistry in Engineering — credits: 5

Course code	ELVP22CHE
Name	Chemistry in Engineering
Study year	2022-2023
ECTS credits	5
Language	English
Coordinator	G. van der Schot
Modes of delivery	Problem-based learning
Assessments	Chemistry in Engineering - Assignment

Learning outcomes

Defining

The student clearly identifies a problem or customer need, contextualizes it, consults relevant sources, and converts it into a goal, problem statement, and electrical engineering requirements.

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.

Professionalizing

The student is able to acquire and maintain skills, is self-directed, constructive in giving and receiving feedback, shows flexibility, and can communicate clearly.

Content

This course covers parts of chemistry that play a role in the applications of electrical engineering.

The topics that are covered:

- Chemical balances,
- Redox chemistry,
- Acids and bases,
- Reaction rates and enthalpy,
- Organic chemistry,
- Phase transitions, intermolecular forces,
- Chemical analysis
- Separation techniques.

The student applies the theory to a number of practical assignments. The emphasis is on applications within the technical field, such as the construction and analysis of a sensor, a new type of battery or fuel cell.

Included in programme(s)

Electrical Engineering Major Sensor Technology
Electrical Engineering Major Electronics
Electrical Engineering Major Mechatronics

School(s)

Institute of Engineering

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