

Course: Materials Science & Electrolysis

credits: 5

Course code	CTVH26MATELEKTRO	Modes of delivery	Lecture
Name	Materials Science & Electrolysis		Practical / Training
Study year	2026-2027		Tutorial
ECTS credits	5	Assessments	Materials Science & Electrolysis - Practical - Other assessment
Language	Dutch, with parts in English		Materials Science & Electrolysis - Theory - Written, organised by STAD examinations
Coordinator	J.M. Meerdink		

Learning outcomes

This module has the following learning outcomes:

- You select construction materials based on the process conditions.
- You interpret forms of corrosion in terms of electrochemical processes and translate these into corrosion cells.
- You apply various corrosion prevention techniques.
- You understand electrolysis and fuel cell processes and perform calculations relating to them.
- You carry out experiments on a semi-technical scale using a bench-scale electrolyser and fuel cell and use the results to analyse these processes.
- You carry out corrosion experiments and analyse the results obtained.

Content

The Materials Science & Electrolysis module covers the following areas of the BOKS Chemical Technology curriculum:

Knowledge:

- Materials science: material properties (metals, plastics, metal corrosion) and applications of materials
- Chemistry: electrochemistry (redox reactions)

Skills:

- Experimenting with bench-scale electrolysers and fuel cells
- Working safely in laboratory and industrial environments
- Research skills and systematic problem-solving

The Materials Science & Electrolysis module covers construction materials (metals, plastics) used in industry and addresses electrochemical processes, including corrosion, electrolysis and fuel cells.

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Included in programme(s)

Chemical Engineering

School(s)

Engineering, Life Sciences & ICT