Course: Reactor Engineering 1 — credits: 5

Course code	CTVH24REACTOR1
Name	Reactor Engineering 1
Study year	2026-2027
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	G. Lammers
Modes of delivery	Assignment Lecture Practical / Training Tutorial
Assessments	Reactorkunde 1 Practicum - Other assessment Reactorkunde 1 Theorie - Written, organised by STAD examinations

Learning outcomes

This module has the following learning outcomes:

You apply the concepts of reaction order and reaction rate constant to arrive at a mathematical description of the reaction rates of reactions with different reaction orders in the interval [0 - 2].

You apply the mathematical description of the concepts of reaction selectivity and yield to arrive at numerical values.

You establish for the three model reactors a mathematical model for the conversion of a reactant for reactions with reaction orders in the interval [0-2] and you solve them numerically.

You determine the kinetics of a reaction (order and reaction rate constant) based on experiments in a batch reactor.

You perform engineering from a CSTR based on kinetics measured in a batch reactor.

Content

The aim of the module is competence development on the kinetics of reactions and its effect on the design of the three model reactors: batch, CSTR and plugflow. The module is part of the Reactor Science Curriculum. This module is the foundation required for successful completion of the Reactor Science 2 module in the third year of study.

Included in programme(s)

Chemical Engineering

School(s)

Engineering, Life Sciences & ICT

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