Course: Calculus — credits: 5

Course code	CCVP23WISKUNDE
Name	Calculus
Study year	2023-2024
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	J. van Assen
Modes of delivery	Lecture
Assessments	Basic skills - Written, organised by STAD examinations Differentiate, integrate, matrix calculus - Written, organised by STAD examinations

Learning outcomes

You calculate with the rules for precedence, for fractions, powers, summations and products.

You solve (systems of) first-degree, second-degree, simple higher-order and logarithmic equations.

You differentiate simple functions using the sum, product, chain and quotient rule.

You primitiveise and integrate simple functions to a given variable using the sum, substitution and fraction splitting rules.

You solve simple differential equations.

You can do matrix arithmetic (scalar product, matrix product, transposed, determinant, inverse matrix, dot product).

DAS competencies

Competency	Level (I-IV)
Research	1
Experimentation	
Development	
Management	
Advise	
Instruction	
Leadership	
Self-management	1

Content

This theory module first repeats the basic skills (as taught at HAVO and VWO) of mathematics, adding (natural) logarithms and summations. Then differentiation, primitivity, integration and matrix arithmetic are discussed in detail and these methods are illustrated with practical examples. Calculating with second-degree equations and logarithms is applied to the subject Chemical Equilibria.

Included in programme(s)

Chemical Engineering
Chemistry

School(s)

Institute for Life Science & Technology

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