

kinetics on solid surfaces

Initial competences

physics I, physics III, chemical thermodynamics I

Final competences

- 1 Interpret important quantities of chemical thermodynamics and their molecular background: enthalpy, entropy, free energy, chemical potential.
- 2 To have insight in the thermodynamic and statistical meaning of entropy.
- 3 Determine equilibrium lines on phase diagrams, and equilibrium in binary mixtures.
- 4 Connect chemical equilibrium with reaction kinetics.
- 5 Calculating enthalpy and entropy changes of physicochemical reactions in a practical context (chemical reactions, phase transitions, electrodes and charge transport).

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Seminar, Lecture, Independent work

Study material

Type: Syllabus

Name: Physical Chemistry for Engineers
Indicative price: Free or paid by faculty
Optional: no
Language : English
Available on Ufora : Yes
Online Available : Yes
Available in the Library : No
Available through Student Association : No

Type: Syllabus

Name: Chemical Kinetics for Engineers
Indicative price: Free or paid by faculty
Optional: no
Language : English
Available on Ufora : Yes
Online Available : Yes
Available in the Library : No
Available through Student Association : No

Type: Slides

Name: Lecture slides
Indicative price: Free or paid by faculty
Optional: no
Language : English
Available on Ufora : Yes
Online Available : Yes
Available in the Library : No
Available through Student Association : No

References

- P.W. Atkins, J. de Paula, 'Physical Chemistry', Oxford University Press (2001)
- R.J. Silbey, R.A. Alberty, M.G. Bawendi, Physical Chemistry, Fourth Edition, Wiley (2004)

Course content-related study coaching

Assessment moments

end-of-term assessment

Examination methods in case of periodic assessment during the first examination period

Written assessment with open-ended questions, Written assessment open-book

Examination methods in case of periodic assessment during the second examination period

Written assessment with open-ended questions, Written assessment open-book

Examination methods in case of permanent assessment

Possibilities of retake in case of permanent assessment

not applicable

Extra information on the examination methods

Theory exam: written closed-book exam.

Exercise exam: written open-book exam.

Calculation of the examination mark

Special conditions: two exams, theory and exercises. Distribution of scores: 12 for the theory, 8 for the exercises.