Zurich University of Applied Sciences

School of Engineering

t.CHEU - Chemie für Energie- und Umwelttechnik

Person responsible for the course:	Dirk Penner, penr
Credits:	2
Valid for:	2011/2012
Last saved:	07.03.2012 09:27

Learning objectives:

-Knowledge of electron structure of atoms and understanding of organization principles of the periodic system
-Knowledge of concepts of ionic bonds, covalent bonds, metal bonds and understanding of correlations beween appearance, properties and structure of materials
-Nomenclature of important chemical substances
-Setup of chemical reactions considering proper stoiciometry, electron transfers and mass balances
-Calculation of energy balances of chemical reactions
-Understanding of chemical equilibria
-Knowledge of electrochemical sensors, storage devices and energy conversion

Course content:

- Introduction
- Structure of atoms and the periodic table of elements
- Types of chemical bonds
- Chemical reactions - mass balances
- Chemical reactions - redox reactions
- Chemical reactions - equilibria
- Chemical reactions - energy balances
- Electrochemistry

Previous knowledge:

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Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	2
Tutorial/Practicum	
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	100 %
	Exam during the semester	
	Further assessments	

Language of instruction:

german

Instruction material:

Script

Book: Chemie, C.E. Mortimer, U. Müller, Thieme

Comments:

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