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Department of Civil Engineering
2012 Summer Semester
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Aquatic Environmental Science
Outline #05: pH and redox potential

1. Basic Analytical Chemistry
 - Quantification of analytical errors
 - Calibration and validation
 - General procedure for determining solute concentrations
 2. Acidity of water
 - Definition of pH
 - Equilibrium constant
 - pH in living systems
 - pH in natural waters
 - Calculation of pH
 - Polyprotic acids
 3. Oxidation and reduction
 - Definition of oxidation and reduction
 - Valence
 - Oxidant and reductant
 - O₂ concentration
 - Redox potential (ORP, E_h)
 4. Exercise
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