

Department of Civil Engineering
2014 Autumn Semester
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Water Quality Dynamics

Outline #19: Streeter Phelps Equation

1. Exercise
 - Ex-21, 22 and 23
 2. Chemical Reaction Kinetics
 - Michaelis-Menten Enzyme Kinetics
 - Arrhenius equation
 3. Streeter-Phelps Equation
 - Mass balance of BOD and DO in plug-flow system
 - First-order reaction
 - Deoxygenation rate constant
 - Reaeration rate constant
 - Effect of temperature on rate constants
 4. Exercise
 - Ex-24, 25 and 26
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