Mindluster Platform

About the course Gas Liquid Mass Transfer Fundamentals

Gas Liquid Mass course, In this course we will learn about Gas-Liquid Mass Transfer principles, processes, and applications in various industries.

Engineering Category's Courses

Course Lesson(60)

Lesson 1 : **Mass Transfer Principles for Gas Liquid Vapor Liquid Unit Operations Trailer**

Lesson 2 : **Welcome to the Course Lec001**

Lesson 3 : **Objectives Goals for the Course Lec003**

Lesson 4 : **Why Mass Transfer in Vapor Liquid Gas Liquid Operations Lec004**

Lesson 5 : **What are Vapor Liquid and Gas Liquid Unit Operations Processes Lec007**

Lesson 6 : **Absorption Desorption Stripping Scrubbing Lec008**

Lesson 7 : **Section 2 Overview Review of Physical Chemistry and other Mass Transfer Basics Lec017**

Lesson 8 : **Ideal Solution in Physical Chemistry and Thermodynamics Lec020**

Lesson 9 : **The General Concept of Ideality in Thermodynamics Lec021**

Lesson 10 : **What is Partial Pressure Lec027**

Lesson 11 : **What is a Phase Physical Chemistry Mass Transfer Lec032**

Lesson 12 : **The Concept of Solubility What is meant with Soluble Gases in Liquids Lec033**

Lesson 13 : **What is Vapor Liquid Equilibrium for Pure substances Lec039**

Lesson 14 : **Animation Reading Pxy and Txy Diagrams for Vapor Liquid Equilibrium Lec041**

Lesson 15 : **Relative Volatility vs Volatility for Distillation Cases Lec044**

Lesson 16 : **Gibbs Phase Rule Why is it useful for Diagrams Lec052**

Lesson 17 : **Animation Reading Vapor Liquid Liquid Equilibrium Diagrams VLLE Lec064**

Lesson 18 :
Thermodynamics Fundamentals for Phase Equilibrium Fugacity Activity Coefficients Lec068

Lesson 19 : **Common Thermodynamic Cases Ideal vs Real Solutions Gases Lec074**

Lesson 20 : **Raoult s Law for Vapor Liquid Ideal Cases Lec076**

Lesson 21 : **Animation Vapor Liquid Equilibrium Diagram for Non Ideal Mixture Lec085**

Lesson 22 : **Miniumum Boiling Point Azeotropes Lec088**

Lesson 23 :

Equilibrium Distribution Curve for Solubility Equilibrium Line and Solubility between Lec100

Lesson 24 : **Analysis of the Equilibrium of Gases Solubility in Liquids Lec103**

Lesson 25 : **Section 2 Closure Review of Physical Chemistry and other Mass Transfer Basics Lec108**

Lesson 26 : **Section 3 Overview Molecular Diffusion in Mass Transfer Lec109**

Lesson 27 : **Before we start About Mass Transfer Cases Stagnant Laminar Turbulent Lec110**

Lesson 28 : **What is Mass Transfer Lec112**

Lesson 29 : **Task Molecular Diffusion in Dyes Lec115**

Lesson 30 : **The Concept of Velocity and Mass Velocity in Mass Transfer Lec117**

Lesson 31 : **What is Molar Flux NA or Molar Velocity per unit Area Lec118**

Lesson 32 :
Ex Exploring Mass Velocity Molar Velocity and Volumetric Velocities for Mass Transfer Lec120

Lesson 33 : **What is Molecular Diffusion Basic Concept for Mass Transfer Lec121**

Lesson 34 : **Eddy s Diffusion vs Molecular Diffusion Whirlpool and Turbulence Lec123**

Lesson 35 : **Fick s Law Mathematical Model for Mass Transfer and its Applications Lec130**

Lesson 36 : **Equimolar Counter Diffusion EMD Case A for Molecular Diffusion Lec133**

Lesson 37 :
Important Tip Understanding the Concepts of Location vs Time in Diffusion Problems Lec136

Lesson 38 : **Unimolecular Diffusion Fick s Law Application UMD Lec139**

Lesson 39 : **Important Notes about Case Studies in Molecular Diffusion Lec140**

Lesson 40 : **Unimolecular Diffusion Equations UMD using Partial Pressures Lec142**

Lesson 41 : **Ex Unimolecular Diffusion of Oxygen using Partial Pressures Lec145**

Lesson 42 : **Section 3 Closure Molecular Diffusion in Mass Transfer Lec148**

Lesson 43 : **Section 4 Overview Convective Mass Transfer and Mass Transfer Coefficients Lec149**

Lesson 44 : **Mass Transfer Cases Stagnant Laminar Transient Turbulent Convective Lec152**

Lesson 45 : **Mass Transfer Coefficients Importance Applications Lec156**

Lesson 46 : **Mass Transfer Coefficients applied to Equimolar Counter Diffusion Case EMD Lec159**

Lesson 47 : **Ex Mass Transfer Coefficient in Unimolecular Diffusion Case UMD Lec162**

Lesson 48 : **Volumetric Mass Transfer Coefficients Its Application in Engineering Lec165**

Lesson 49 : **Mass Transfer Correlations Equations for Coefficients Lec169**

Lesson 50 :
Mass Transfer Correlation for Flow in Packed Beds Equation for Mass Transfer Coefficient Lec172

Lesson 51 : **Ex Application of a Mass Transfer Correlation for Fluids in Packed Beds Lec173**

Lesson 52 : **Section 5 Overview Interphase Mass Transfer Lec176**

Lesson 53 : **What is an Interphase Why do we need it Lec178**

Lesson 54 : **Theories for Interphase Mass Transfer Lec187**

Lesson 55 : **Original Film Theory for Gas Liquid Applications Lec188**

Lesson 56 :
Ex Mass Transfer Coefficient Film Thickness via Original Film Theory in a Packed Absorber

Lesson 57 : **Gas Film to Liquid Film Interaction in the Two Resistance Theory Lec199**

Lesson 58 : **Mass Transfer Coefficients in Two Film Theory Lec202**

Lesson 59 : **Local vs Overall Mass Transfer Coefficients Lec206**

Lesson 60 :
Ex Mass Transfer Resistance in Gas Absorption Resistance in Local Overall Coefficients Lec209

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