Mindluster Platform

# About the course Mass Transfer Operations Fundamentals

Mass Transfer Operations course, In this course we will learn about Mass Transfer Operations, including principles and applications in separation processes and unit operations.

**Engineering Category's Courses**

## Course Lesson(55)

Lesson 1 : **Introduction to Mass Transfer Operations Trailer**

Lesson 2 : **Welcome to the Introduction to Mass Transfer Course Lec001**

Lesson 3 : **Course Content Introduction to Mass Transfer Operations Lec002**

Lesson 4 : **Objectives Goals Introduction to Mass Transfer Operations Lec003**

Lesson 5 : **Why should you study an Introduction to Mass Transfer Operations Lec004**

Lesson 6 : **Typical Structure Syllabus of a Mass Transfer Operations Course Lec005**

Lesson 7 : **What is a Mass Transfer Operation Lec007**

Lesson 8 :
**Separation Process vs Mass Transfer Operation The difference between each other Lec008**

Lesson 9 : **Processes Differences Separation vs Mixing vs Agitation Lec010**

Lesson 10 : **Section 2 Introduction Overview of Separation Processes Lec015**

Lesson 11 : **History of Separation Technologies Common Processes Products Lec018**

Lesson 12 : **Ore Extraction Copper production using Separation Processes Lec022**

Lesson 13 : **Mass Separating Agent MSA vs Energy Separating Agents ESA Lec035**

Lesson 14 : **Classification of Separation Processes via Type of Procedure Methodology Lec041**

Lesson 15 : **Classification of Separation Processes via Phases Involved in the Mixture Lec042**

Lesson 16 : **Separation by Phase Addition e g Liquid Extraction Gas Absorption Lec043**

Lesson 17 : **Separation by Phase Creation e g Distillation Evaporation Lec045**

Lesson 18 : **Separation by Barrier e g Membrane Filters Lec046**

Lesson 19 : **Separation by Solid Agent e g Adsorption Ion Exchange Chromatography Lec047**

Lesson 20 :
**Separation by External Field or Gradient E g Electric Gravitational Magnetic Fields Lec048**

Lesson 21 : **Separations by Mechanical Physical Interaction e g Decanting Settling Sieving Lec049**

Lesson 22 : **Equilibrium Based Models vs Rate Based Calculations Model Analysis Lec051**

Lesson 23 : **Section 2 Closure Overview of Separation Processes Lec056**

Lesson 24 : **Section 3 Introduction Separation by Phase Creation Phase Addition Lec057**

Lesson 25 : **Separation by Phase Addition Creation Theoretical Concepts Fundamentals Lec058**

Lesson 26 : **Flash Distillation Separation Process involving Creation of a Phase Lec060**

Lesson 27 :
**Animation Application of a McCabe Thiele Method for Methanol Water Separation Lec062**

Lesson 28 : **Introduction to Azeotropic Distillation Azeotrope Displacement and Separation Lec068**

Lesson 29 : **Animation Separating Binary Azeotropes using Pressure Swing Distillation Lec070**

Lesson 30 : **Extractive Distillation vs Azeotropic Distillation Main Similarities Differences Lec072**

Lesson 31 : **Reboiled Absorption Gas Absorption Application with Reboiling Lec081**

Lesson 32 : **Section 4 Introduction Separation by Barrier such as Membranes Lec089**

Lesson 33 :
**Animation Membrane Concentration Profile Effect of Concentration and Membrane Width Lec093**

Lesson 34 :
**Introduction to Membranes What are Membranes how do they work why do we need them Lec095**

Lesson 35 : **The Retentate Permeate The Main Products from a Membrane Process Lec098**

Lesson 36 : **Advantages of Membrane Technologies Why are Membranes so Attractive Lec100**

Lesson 37 : **Reverse Osmosis Overview of the Industrial Application Process and Equipment Lec109**

Lesson 38 : **Nanofiltration Difference from Ultra and MicroFiltrations Bonus Lecture Lec114**

Lesson 39 :
**Section 5 Introduction Solid Agent Addition Adsorption Ion Exchange Chromatography Lec120**

Lesson 40 :
**An Overview of Adsorption How does it work why do we use it Advantages Disadvantages Lec123**

Lesson 41 :
**Physical Adsorption vs Chemisorption Main Processes of Adsorption at the Molecular Level Lec126**

Lesson 42 : **Adsorption Columns Equipment How do they Work Lec127**

Lesson 43 : **Mechanisms of Chromatography How Chromatography Works Lec135**

Lesson 44 : **Electrodialysis An Overview of the Process Products Equipment Industries Lec151**

Lesson 45 : **Sugar Production Case Study Separation Processes involving Solids Lec158**

Lesson 46 : **Leaching or Liquid Solid Extraction An Overview of Process Industry Lec160**

Lesson 47 : **Thickeners used in Washing Equipment for Industrial Washing Settling Lec168**

Lesson 48 : **Crystallization an Overview of Process Technology and Products Lec184**

Lesson 49 : **Section 8 Introduction Mechanical Physical Separations Lec189**

Lesson 50 : **Common Processes involving Mechanical Physical Lec192**

Lesson 51 :
**Section 9 Introduction Concepts in Separation Technology Sequencing Calculations Lec196**

Lesson 52 : **Split Fraction Calculations for Separation Sequencing Lec200**

Lesson 53 : **Split Ratio Variables involved in Separation Analysis Lec201**

Lesson 54 :
**Separation Sequencing The Importance of Order and Sequence in Separation Processes Lec212**

Lesson 55 : **Course Closure Introduction to Mass Transfer Operations Lec217**

# Related courses

**Cabinetry Basics**

**MFT and MFT related accessories**

**hinges workshops**

**CNC Computer numerical control**

**Jointing Systems**

**Cabinet tips**

for Business Contact
business@mindluster.com