



MASS TRANSFER OPERATIONS - II

PROF. CHANDAN DAS

Department of Chemical Engineering
IIT Guwahati

PRE-REQUISITES : Mass Transfer Operations I

INTENDED AUDIENCE : Under graduate students/Candidates from professional fields

INDUSTRY SUPPORT: All chemical and design industries like TATA STEEL, Worley Parsons Oman Engineering LLC, Hindalco Industries Limited, Indian Oil Corporation Ltd., Engineers India Ltd, etc.

COURSE OUTLINE :

This course will provide an overview on mass transfer at basic to an intermediate level. This course applies the concepts of diffusion and interphase mass transfer to the analysis of different unit operations such as humidification, drying, adsorption, extraction, leaching, crystallization and membrane processes. The course synthesizes fundamental concepts and analytical skills to understand mass transfer operations and to tackle the sort of complex problems. Information on key topics will be provided in the form of summary of lecture notes, problems and adequate references.

ABOUT INSTRUCTOR :

Prof. Chandan Das is a Professor in Department of Chemical Engineering at IIT Guwahati. His Key research areas are Membrane Separation Technology, Food Science & Technology, Sustainable Material for Corrosion Protection, Heavy metal remediation using Spirulina pletensis, blue-green micro algae. He has authored 3 books and published articles in reputed journals.

COURSE PLAN :

Week 1: Humidification and air conditioning - I

Week 2: Humidification and air conditioning - II

Week 3: Drying Operations - I

Week 4: Drying Operations - II

Week 5: Liquid Extraction - I

Week 6: Liquid Extraction - II

Week 7: Leaching

Week 8: Membrane Separation Technology - I

Week 9: Membrane Separation Technology - II

Week 10: Adsorption and Ion-exchange - I

Week 11: Adsorption and Ion-exchange - II

Week 12: Crystallization