

1.	Title of the course	Fundamentals of Mass Transfer
2.	Course number	CH2206
3.	Status of the course	Core
4.	Structure of credits	2-1-0-3
5.	Offered to	UG
6.	New course/modification to	New course
7.	To be offered by	Department of Chemical Engineering
8.	To take effect from	January 2021
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	<b>Course Objective(s):</b> To introduce diffusive and convective mass transfer, and concepts of equipment design for separation processes.	
12.	<b>Course Content:</b> Introduction to mass transfer; Molecular scale diffusion; Fick's law of diffusion; Estimation of diffusion coefficient in gases, liquids and solids; Diffusive and convective fluxes, Concentration profiles in steady and unsteady state mass transfer; Interphase mass transfer coefficients; Theories of mass transfer coefficient for gas-liquid systems, Sherwood number, correlations; Concept of equilibrium-stage and continuous contact equipment.	
13.	<b>Textbook(s):</b> 1. Cussler E L, <i>Diffusion: Mass Transfer in Fluid Systems</i> , 3rd Edition, Cambridge University Press (2009). 2. Treybal R E, <i>Mass Transfer Operations</i> , 3rd Edition, Tata McGraw Hill (2012).	
14.	<b>Reference(s):</b> 1. Dutta B K, <i>Principles of Mass Transfer and Separation Processes</i> , 2nd Edition, Prentice Hall India (2007). 2. Geankoplis C J, Hersel A A and Lepek D H, <i>Transport Processes and Separation Process Principles</i> , 5th Edition, Prentice Hall (2018). 3. Welty J, Wicks C E, Wilson R E and Rorrer G L, <i>Fundamentals of Momentum, Heat and Mass Transfer</i> , 5th Edition, Wiley India (2010).	