

1.	Title of the course	Separation Processes
2.	Course number	CH310L
3.	Structure of credits (L-T-P-C)	3-1-0-4
4.	New course/modification to	Modified with CH302L/SEPARATION AND PURIFICATION PROCESSES
5.	To be offered by	Chemical Engineering
6.	Proposed by	Sasidhar Gumma
7.	Prerequisite	None
8.	Course Objective(s): To identify appropriate processes for separation of a given mixture. To apply the principles of mass transfer and design equipment to achieve the desired separation.	
9.	Course Content: Introduction to separation processes; Equilibrium stage-wise and rate-based approaches; Distillation: vapor-liquid equilibria for binary systems, flash distillation, batch distillation, multistage tray towers, introduction to multicomponent distillation; Liquid-liquid extraction; Absorption and stripping; Humidification; Cooling towers; Drying; Adsorption; Membrane separations.	
10.	Textbook(s): 1. Seader J D and Henley E J, Separation Process Principles with Application using Process Simulators, 4th Edition, John Wiley & Sons (2016). 2. McCabe W L, Smith J C and Harriot P, Unit Operations of Chemical Engineering, 7th Edition, McGraw Hill (2021).	
11.	Reference(s): 1. Treybal R E, Mass Transfer Operations, 3rd Edition, McGraw Hill (2017). 2. Dutta B K, Principles of Mass Transfer and Separation Processes, Prentice Hall India (2006).	