

1.	Title of the course	Introduction to Colloids and Interfaces
2.	Course number	CH504L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To CH5024/16
6.	To be offered by	Department of Chemical Engineering
7.	To take effect from	January 2022
8.	Prerequisite	Nil
9.	Course Objective(s): To introduce the fundamentals of interfacial science in colloidal systems and discuss the underlying mechanisms of such phenomena.	
10.	Course Content: Introduction to intermolecular and surface forces; Surface tension and capillarity; Wetting and contact angle; Micelle formation and self assembly processes in colloids; Molecular and colloidal monolayers and their characterization; Basic characterization of colloids by microscopy and light scattering methods; Electrokinetic phenomena; Models of electric double layer; Stability of colloidal systems - suspensions, dispersions, emulsions and foams; Applications in natural, biological and industrial processes.	
11.	Textbook(s): 1. Hiemenz P C and Rajagopalan R, <i>Principles of Colloid and Surface Chemistry</i> , 3rd Edition, Marcel and Dekker Inc. (1997). 2. Israelachvili J, <i>Intermolecular and Surface forces</i> , 3rd Edition, Academic Press (2018).	
12.	Reference(s): 1. Birdi K S, <i>Surface and Colloid Chemistry: Principles and Applications</i> , 1st Edition, CRC Press (2020). 2. Birdi K S, <i>Handbook of Surface and Colloid Chemistry</i> , 4th Edition, CRC Press (2015). 3. Everett D H, <i>Basic Principles of Colloid Science</i> , 1st Edition, Royal Society of Chemistry (1988). 4. Masliyah J and Bhattacharjee S, <i>Electrokinetic and Colloid Transport Phenomena</i> , 1st Edition, Wiley Interscience (2008).	