

1.	Title of the course	Fluid and Particle Mechanics Laboratory
2.	Course number	CH2191
3.	Status of the course	Core
4.	Structure of credits	0-0-3-2
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	July 2020
9.	Prerequisite	Nil
10.	Whether approved by the Department	Yes
11.	<b>Course Objective(s):</b> To perform experiments for applying the hydrodynamic principles in fluid and particle systems. To perform experiments for handling and characterization of particle systems.	
12.	<b>Course Content:</b> Reynolds experiment; Bernoulli's theorem verification; Impact of jets; Flow measurement devices; Losses in pipes and bends; Characteristics of centrifugal pump; Terminal settling velocity; Flow through packed and fluidized beds; Particle size reduction; Sieve analysis; Sedimentation; Filtration.	
13.	<b>Textbook(s):</b> 1. McCabe W L, Smith J C and Harriot P, <i>Unit Operations of Chemical Engineering</i> , 7th Edition, Tata McGraw Hill (2014). 2. Nevers N d, <i>Fluid Mechanics for Chemical Engineers</i> , 3rd Edition, Tata McGraw Hill (2011).	
14.	<b>Reference(s):</b> 1. Bird R B, Stewart W E and Lightfoot E N, <i>Transport Phenomena</i> , 2nd Edition, Wiley India (2006). 2. Chhabra R P and Basavraj M G, <i>Coulson and Richardson's Chemical Engineering: Particulate Systems and Particle Technology, Volume 2a</i> , 6th Edition, Butterworth-Heinemann (2019). 3. Darby R and Chhabra R P, <i>Chemical Engineering Fluid Mechanics</i> , 3rd Edition, CRC Press India (2016). 4. 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).	