

1.	Title of the course	Chemical Reactor Analysis and Design
2.	Course number	CH513L
3.	Status of the course	Core
4.	Structure of credits	3-0-0-3
5.	Offered to	PG
6.	New course/modification to	New
7.	To be offered by	Department of Chemical Engineering
8.	To take effect from	July 2023
9.	Prerequisite	CoT
10.	Whether approved by the Department	Yes
11.	<b>Course Objective(s):</b> To explore chemical reaction engineering principles. To analyze and design laboratory or industrial scale reactors and multiphase reactors.	
12.	<b>Course Content:</b> Chemical reaction kinetics; Introduction to ideal reactors; Energy balances in ideal reactors; Non-ideal reactors; Catalytic reaction engineering; Heterogenous Catalysis; Multiphase reactions and reactors; Microreactors and their application.	
13.	<b>Textbook(s):</b> 1. Froment G F, Bischoff K B and Wilde J, <i>Chemical Reactor Analysis and Design</i> , 3rd Edition, Wiley India (2010). 2. Levenspiel O, <i>Chemical Reaction Engineering</i> , 3rd Edition, Wiley India (2006).	
14.	<b>Reference(s):</b> 1. Doraiswamy L.K and Üner D, <i>Chemical Reaction Engineering: Beyond the Fundamentals</i> , 1st Edition, CRC Press (2013). 2. Fogler S H, <i>Elements of Chemical Reaction Engineering</i> , 4th Edition, Prentice Hall India (2015). 3. Kockmann N, <i>Transport Phenomena in Micro Process Engineering (Heat and Mass Transfer)</i> , 1st Edition, Springer (2007).	