

1.	Title of the course	Process Equipment Design
2.	Course number	CH3206
3.	Status of the course	Core
4.	Structure of credits	2-0-3-4
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.	Course Objective(s): To design equipment for various unit operations, and to use process simulators.	
12.	Course Content: Design of pressure vessel and vessel accessories; Piping design; Heat exchanger design: fouling, pressure drop, sizing; Design of distillation columns: selection of trays, packings, short-cut methods, pressure drop, tray spacing, column height and diameter; Design of absorber and other separation equipment; Design of catalytic and non-catalytic reactors; Engineering drawing of process equipment. Laboratory: Equipment design using process simulators.	
13.	Textbook(s): 1. Couper J R, Penny W R, Fair J R and Walas S M, <i>Chemical Process Equipment</i> , 3rd Edition, Butterworth-Heinemann (2010). 2. Sinnott R K and Towler G, <i>Coulson and Richardson's Chemical Engineering: Chemical Engineering Design, Volume 6</i> , 3rd Edition, Butterworth-Heinemann (2015).	
14.	Reference(s): 1. Bhattacharyya B C, <i>Introduction to Chemical Equipment Design</i> , 1st Edition, CBS Publishers & Distributors (2003). 2. Brownell L E and Young E H, <i>Process Equipment Design</i> , 1st Edition, Wiley India (2009). 3. Haydary J, <i>Chemical Process Design and Simulation: Aspen Plus and Aspen Hysys Applications</i> , 1st Edition, Wiley (2019). 4. Ludwig E E, <i>Applied Process Design for Chemical and Petrochemical Plants, Volume 1 & 2</i> , 3rd Edition, Gulf Professional Publishing (1999).	