

1.	Title of the course	Oil and Gas Engineering
2.	Course number	CH408L
3.	Structure of credits	3-0-0-3
4.	Offered to	UG
5.	New course/modification to	Modification To CH4023/12
6.	To be offered by	Department of Chemical Engineering
7.	To take effect from	July 2022
8.	Prerequisite	CoT
9.	Course Objective(s): To provide fundamentals of petroleum reservoir engineering and refinery processes.	
10.	Course Content: Petroleum reservoir engineering: origin and composition of petroleum, petroleum geology, reservoir rock and fluid properties, flow of oil and gas in reservoirs, oil well drilling methods, predicting reservoir performance, enhanced oil recovery; Petroleum refinery engineering: characterization of crude oil and refinery products, crude distillation process, thermal and catalytic cracking, catalytic reforming, hydrocracking, hydrodesulfurization, light end and heavy end processes, lube oil production; Natural gas engineering: determination of natural gas properties, gas reservoir deliverability, wellbore and wellhead choke performance, gas processing, transportation, measurement and pipeline cleaning, conversion of gas to liquids.	
11.	Textbook(s): 1. Kaiser M J, Klerk A d, Gary J H and Handwerk G E, <i>Petroleum Refining: Technology, Economics and Markets</i> , 6th Edition, CRC Press (2019). 2. Terry R E, Rogers J B, Hawkins M and Craft B C, <i>Applied Petroleum Reservoir Engineering</i> , 3rd Edition, Prentice Hall (2015).	
12.	Reference(s): 1. Guo B and Ghalambor A, <i>Natural Gas Engineering Handbook</i> , 1st Edition, Gulf Publishing Company (2005). 2. Hsu C S and Robinson P R, <i>Springer Handbook of Petroleum Technology</i> , 2nd Edition, Springer (2017). 3. Katz D L and Lee R L, <i>Natural Gas Engineering</i> , 1st Edition, McGraw Hill (1990). 4. Speight J G, <i>The Chemistry and Technology of Petroleum</i> , 5th Edition, CRC Press (2014).	