Course Type	Course Code	Name of Course	L	T	P	Credit
DE	NPED508	Well Intervention, Workover and Stimulation Techniques	3	0	0	3

Course Objective

- Understanding of workover and stimulation operations.
- Workover operation design and field application

Learning Outcomes

Upon successful completion of this course, students will:

- Understand different oil and gas well problems and their workover solutions
- Understand how to select appropriate workover and stimulation techniques for improving well production

Unit No.	Topics to be Covered	Lecture Hours	Learning Outcome
1	Introduction to workover and well stimulation operations: challenges and solutions.	4	Understanding of post-completion enhancement of both reservoir and well.
2	Workover operations. Workover fluids, fluid loss and formation damage. Scraping, and well circulation.	5	This unit will help the student to understand the challenges encountered during workover operations and their mitigation.
3	Water and gas shut-off and squeeze cementing. Handling of water and gas coning.	6	The aim behind this unit is to provide a general description of identifying the unwanted water and gas production sources and the common practices for water and gas shutoff
4	Production packers and packer calculation, and well activation. Repair of wells, and paraffin and scale removal. Planning and evaluation of workover jobs. Corrosion, bacteria & scale control.	5	This unit will help the students to understand that how packers work, what are the setting mechanism and forces acting on it. This unit also helps the students to know about different problems arising during production and their mitigations.
5	Well treatment: acidizing of oil and gas wells. Hydro-perforation. Hydraulic fracturing. Stimulation designing, proppants and their placement. Thermal stimulation techniques	5	Students should be able to understand how to select stimulation techniques best suited for various formation types and situations.
6	Surface equipment for stimulation and gravel pack jobs. Down-hole heaters. Horizontal well stimulation.	5	Students will able to learn about different surface equipments that are needed during well stimulation and gravel pack job and functions of each equipment.
7	Sand-control, screens, and gravel packs: design and installation.	6	Provide Students with the knowledge, understanding and tools required to design, implement and manage sand control completions.
8	Well intervention: slickline/wireline operations and coil tubing operation.	6	Students will get up-to-date knowledge on wireline equipment, techniques and operations during well completion, servicing, work over and production.
	Total	**42**	

Text Books:

1. Production Operations I, Thomas O. Allen and Alan P. Roberts, Pennwell, 2012
2. Workover Well Control, Neal J. Adams, Pennwell, 1981.

Reference Book:

1. Well Design, Drilling and Production, Craft et al., Prentice Hall, 1962.