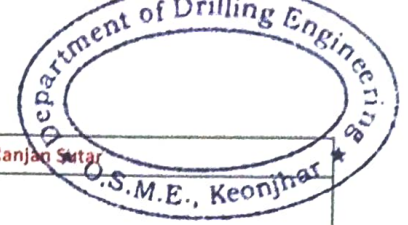


Department of Drilling Engineering
WINTER-2026, WELL CONTROL TECHNOLOGY Lesson Plan



Branch: DRILLING ENGINEERING				Faculty:- Er.Tapas Ranjan Sutar			
Subject: WELL CONTROL TECHNOLOGY/DEPE301(B)			No of periods: 3hrs/week	Total Period: 45 Total week: 15	End Sem exam: 70 Progressive assesment: 30		
Scheduled Session: WINTER-2026 (01.07.2026 to 05.11.2026), AVAILABLE PERIOD: 48							
Month	Week	Period	Date	Topics	Total Periods/Remarks		
JULY	1st	1P	01.07.2026	Briefing of Syllabus and Introduction to the course, its application	1		
	2nd	I.Introduction to Well Control:			5		
		1P	06.07.2026	Importance of well control in drilling operations			
		1P	07.07.2026	Blowout incidents and case studies			
		1P	08.07.2026	Regulatory framework and safety standards			
	3rd	1P	13.07.2026	Pressure concepts – hydrostatic, formation			
		1P	14.07.2026	Pressure concepts – fracture, overbalance, underbalance.			
		II. Pressure Control Fundamentals:			6		
		1P	15.07.2026	Formation pressure, pore pressure, fracture gradient			
	4th	1P	20.07.2026	Pressure gradient calculations and conversions			
		1P	21.07.2026	Kick indicators and detection methods			
		1P	22.07.2026	U- tube concept.			
	5th	1P	27.07.2026	Pressure behavior in wellbore.			
		1P	28.07.2026	Pressure behavior in wellbore.			
		III. Causes and Detection of Kicks:			5		
		1P	29.07.2026	Causes of kicks during drilling			
	AUGUST	2nd	1P	03.08.2026	Kick detection equipment and monitoring		
			1P	04.08.2026	Role of mud logging and real-time data		
			1P	05.08.2026	Safety measures for early kick detection.		
3rd		1P	10.08.2026	Safety measures for early kick detection.			
		IV. Well Shut-in Procedures:			6		
		1P	11.08.2026	Soft shut-in vs. hard shut-in			
4th		1P	12.08.2026	Driller's method			
		1P	17.08.2026	Wait and Weight method			
		1P	18.08.2026	Surface and subsea shut-in practices			
5th		1P	19.08.2026	Importance of accurate pit volume and pressure readings			
		1P	24.08.2026	Importance of accurate pit volume and pressure readings			
		V.Blowout Preventer (BOP) Systems:			7		
SEPTEMBER		1st	1P	25.08.2026	Types and components of BOP systems		
	1P		01.09.2026	Annular vs. ram-type preventers			
	Tentative 1st Internal Assesment in-between 01.09.2026 to 08.09.2026						
	2nd	1P	02.09.2026	Annular vs. ram-type preventers			
		1P	07.09.2026	BOP stack configuration and accessories			
		1P	08.09.2026	BOP stack configuration and accessories			
	4th	1P	09.09.2026	Control systems and accumulator units.			
		1P	21.09.2026	Control systems and accumulator units.			
		VI. Well Kill Procedures:			6		
	5th	1P	22.09.2026	Kill mud weight calculation			
		1P	23.09.2026	Circulating methods – driller's, engineer's, concurrent			
		1P	28.09.2026	Circulating methods – driller's, engineer's, concurrent			
		1P	29.09.2026	Use of kill sheets and pressure control charts			
OCTOBER	2nd	1P	30.09.2026	Volumetric method			
		1P	05.10.2026	Lubricate-and-bleed method.			
		VII. Well Control Equipment and Tools:			5		
	3rd	1P	06.10.2026	Choke manifold			
		1P	07.10.2026	Mud-gas separator			
		1P	12.10.2026	Pressure gauges and recorders			
	4th	1P	13.10.2026	Kick tolerance and casing design considerations			
		1P	14.10.2026	Equipment maintenance and testing procedures			
		VIII. Special Well Control Situations:			5		
	5th	1P	21.10.2026	High-pressure high-temperature (HPHT) wells			
		1P	26.10.2026	Deepwater and underbalanced drilling			
		1P	27.10.2026	Horizontal and directional well control			
		1P	28.10.2026	Relief well planning and Implementation.			
NOVEMBER	Tentative 2nd Internal Assesment in-between 26.10.2026 to 31.10.2026						
	1st	1P	02.11.2026	Relief well planning and Implementation.			
		1P	30.11.2026	Doubt Clearing/ Extra Class			
		1P	04.11.2026	Doubt Clearing/ Extra Class			

Prepared By: Er. Tapas Ranjan Sutar
Lect-II, Drilling

Par
25-6.26
Lecturer (Stage-II)
Drilling Engineering
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25-6-26
PRINCIPAL
Orissa School of Mining Engineering
KEONJHAR