

Module code	SG-5313		
Module Title	Introduction to Petroleum Engineering		
Degree/Diploma	Master of Science in Petroleum Geosciences by Coursework		
Type of Module	Option		
Modular Credits	4	Total student Workload	8 hours/week
		Contact hours	4 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims To provide basic understanding of petroleum engineering including techniques of petroleum industry, drilling operation, well completions and production for finding rock and fluid properties, reservoir pressure, recovery factor and finally to understand decision-making process and petroleum business environment.			
Learning Outcomes <i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	30%	<ul style="list-style-type: none">- recall the history of oil and gas industry- report the exporting and importing countries- describe the different exploration tools	
Middle order:	50%	<ul style="list-style-type: none">- explain the basics of drilling operation, drilling rigs and requirements- classify the types of drilling mud and its properties- explain the reservoir pressure, blow out, and its impacts on production- investigate the production mechanism and types of oil recovery- characterise the quality of reservoirs and its features	
Higher order:	20%	<ul style="list-style-type: none">- appraise the reservoir pressure data, fluid types and contacts- appraise the production techniques and solve raising problems- quantify the hydrocarbon potentiality and estimate reserves	
Module Contents <ul style="list-style-type: none">- Overview of petroleum technology and its importance to society- History of oil and gas exploration, production and refining- Modern techniques of exploration, drilling operation and types, reservoir engineering,- Petroleum production statistics, products and markets, oil economics, supply systems and product applications. Production mechanisms: primary, secondary, tertiary; enhanced oil recovery and improved oil recovery- Well completion techniques: casing, cementing, downhole and surface components; perforation and multiple zone completion			
Assessment	Formative assessment	Weekly discussion, practical tests and feedback	
		Examination: 50%	

	Summative assessment	<p>Coursework: 50%</p> <ul style="list-style-type: none"> - 5 individual written assignments (30%) - 2 class tests (20%)
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