

Module code	SG-4308		
Module Title	Well Log Analysis		
Degree/Diploma	Bachelor of Science (Geology)		
Type of Module	Major Option		
Modular Credits	4	Total student Workload	10 hours/week
		Contact hours	6 hours/week
Prerequisite	None		
Anti-requisite	None		
Aims			
Well log analysis is essential course to understand the physical properties of rocks along a well bore. Familiarity with the purposes, principles, measurement procedures, tool designs and optimum applications of well logs is therefore essential for students embarking on their careers in the petroleum industry or any other related organisations. This module will encourage students to understand the lithologies and hydrocarbon bearing zones and their correlations across the wells as well as to quantify petrophysical properties.			
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"> - understand the basic principles of the well logging technique - understand borehole condition and invasion effect on logging measurement - understand the formation temperature and corrections 	
Middle order :	50%	<ul style="list-style-type: none"> - analyse various lithology logs to determine the general lithology - determine the reservoir porosity by applying different porosity logs - determine the water saturation based of the reservoir properties 	
Higher order:	20%	<ul style="list-style-type: none"> - justify logging tools and to make appropriate reports - appraise well log data using software in both individual and group projects 	
Module Contents			
<ul style="list-style-type: none"> - Introduction to well log analysis, principles, procedures and tool designs - Open Hole Logging and Cased-Hole logging - Logging While Drilling (LWD) and Measurement While Drilling (MWD) - Lithology and porosity logs principles and applications - Quick look interpretation for lithology and hydrocarbon detection - Application of different models to determine porosity, shale volume, water and hydrocarbon saturation 			
Assessment	Formative assessment	Practical tests, assignments and feedback	
	Summative assessment	Examination: 50% Coursework: 50% <ul style="list-style-type: none"> - 3 written assignments (30%) - 2 class tests (20%) 	