

<b>Module code</b>	SG-4302		
<b>Module Title</b>	Petroleum Geology		
<b>Degree/Diploma</b>	Bachelor of Science (Geology)		
<b>Type of Module</b>	Major Option		
<b>Modular Credits</b>	4	<b>Total student Workload</b>	10 hours/week
		<b>Contact hours</b>	6 hours/week
<b>Prerequisite</b>	None		
<b>Anti-requisite</b>	None		
<b>Aims</b>			
<p>This module is designed to describe the different elements and processes that constitute the petroleum system. The module presents the origin, types and characteristics of source rocks, too. It contains the reservoir rocks and their properties to evaluate the reservoir potential prior to exploration and development of petroleum. The hydrocarbon migration and accumulation and entrapment style are also included in this course. Main hydrocarbon provinces and selected case study will be presented, as well.</p>			
<b>Learning Outcomes</b>			
<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"> <li>- understand the history of petroleum and hypothesis of generation</li> <li>- understand the oil industry, exploration tools, exporting and importing countries</li> </ul>	
Middle order :	50%	<ul style="list-style-type: none"> <li>- explain the dynamics of a system to generate and accumulate oil and gas</li> <li>- evaluate source rock potential and hydrocarbon potentiality</li> <li>- characterise reservoir rocks, calculate porosity, permeability and saturation</li> <li>- identify different types of oil traps and how they are formed</li> <li>- draw the petroleum system event chart</li> </ul>	
Higher order :	20%	<ul style="list-style-type: none"> <li>- visualise the petroleum system in order to identify migration pathways of hydrocarbon and predict the most suitable traps for accumulation</li> <li>- appraise the hydrocarbon potentiality and calculate the reserve in place</li> </ul>	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Petroleum system analysis, the role of organic matter in source rocks</li> <li>- The conditions of diagenesis and catagenesis for source rock maturation</li> <li>- Generation and migration of hydrocarbons, the rock-fluid relationship</li> <li>- Seal rock, oil traps and reservoir characterisation</li> </ul>			
<b>Assessment</b>	Formative assessment	Practical tests, assignments and feedback	
	Summative assessment	Examination: 50% Coursework: 50% <ul style="list-style-type: none"> <li>- 6 written assignments (30%)</li> <li>- 2 class tests (20%)</li> </ul>	