Module code	SG-5101			
Module Title	Petroleum Geochemistry			
Degree/Diploma	Master of Science in Petroleum Geosciences by Coursework			
Type of Module	Core			
Modular Credits	4	**Total student Workload**	8	hours/week
		Contact hours	4	hours/week
Prerequisite	None			
Anti-requisite	None			

Aims

To provide the concepts of petroleum system covering composition, accumulation and preservation of the organic matter and its transformation to kerogen and subsequently to petroleum. To enhance the understanding of the students about source rocks evaluation, hydrocarbon generation potential, biomarker study, burial history model and contribution of geochemistry to petroleum exploration and production.

Learning Outcomes

On successful completion of this module, a student will be able to:

Lower order:	30%	- recognise the concepts of petroleum geochemistry - recall the different theories of petroleum origin - describe the petroleum system elements and processes
Middle order:	50%	- define the composition, accumulation and preservation of organic matter - investigate the maturation, generation, migration of petroleum - classify the source rocks and kerogen type data - construct the burial history, 1D basin modelling and petroleum system event charts - collect the maceral composition and types of organic matter data
Higher order:	20%	- appraise the biomarker data and depositional environment - interpret the maturity of source rock correlation from GC data

Module Contents

- Introduction to petroleum geochemistry
- Composition, accumulation and preservation of organic matter
- The role of organic matter in source rocks (types, quality, maturity level)
- The conditions that strongly influence the processes of diagenesis, catagenesis, metagenesis and maturation of source rocks
- Methods of source rock analysis and evaluation
- Maceral composition of organic matter

Assessment	Formative assessment	Weekly discussion, practical tests and feedback
		Examination: 50%

	Summative assessment	Coursework: 50% - 5 individual written assignments (30%) - 2 class tests (20%)