Module code	SG-5306			
Module Title	Petroleum Subsurface Mapping			
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 through understanding of subsurface maps and render hands on training to prepare stratigraphic and structural cross sections, different types of 2D and 3D maps which are very useful for locating and exploiting hydrocarbon in place.

Learning Outcomes

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

Lower order:	30%	- describe the basic principle idea of subsurface mapping - describe the different types of subsurface and geological maps
Middle order:	50%	- construct subsurface cross sections that are critical for petroleum system - construct thickness, facies maps and correlation charts - investigate the impacts of subsurface maps to petroleum exploration
Higher order:	20%	- interpret 2D and 3D subsurface maps for hydrocarbon traps - interpret subsurface structure on different contour maps - design 2D and 3D cross sections from geological data

Module Contents

- Types of maps, contouring and contouring Techniques
- The idea of subsurface geological mapping
- Construction of subsurface geological cross-sections and petroleum related interpretations
- Understanding the purpose of thickness maps and interpretation
- Structural contour maps and petroleum related structures
- Lithofacies maps as a tool to describe the subsurface facies changes.

Assessment	Formative assessment	Weekly discussion, practical tests and feedback
	Summative assessment	Examination: 50%
		Coursework: 50% - 5 individual written assignments (30%) - 2 class tests (20%)