Module code	SG-5310			
Module Title	Reservoir Modelling			
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 hands on training to take up their own reservoir modelling project incorporating seismic interpretation, structural modelling, facies modelling and petrophysical modelling that result in static reservoir model, allowing the calculation of deterministic and probabilistic reserves including uncertainties analysis and risk assessment.

Learning Outcomes

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

Lower order:	10%	- recognise statistical approaches and principles of reservoir modelling - describe the applications of reservoir modelling
Middle order:	30%	- analyse structural, stratigraphic, sedimentological and petrophysical components of the reservoir model - interpret various components within the model with possible influences
Higher order:	60%	- carry out static reservoir modelling with different uncertainties and forecasting future production scenario - work in a group of people with diverse technical background and play a pivotal role for development project

Module Contents

- Deterministic and stochastic geocellular reservoir models employing Petrel™ or any other industry standard software
- Quantifying geology: assign static reservoir properties
- Calculation of deterministic and probabilistic reserves
- Uncertainty definition and quantification, scope for in-field appraisal and early field development: forwarding well proposals
- Advice in relation to acquisition and investment decisions: risk assessment
- Evaluate opportunities in case of “tired” or non-operated assets

Assessment	Formative assessment	Weekly discussion, practical tests and feedback
		Examination: 20%

	Summative assessment	Coursework: 80% - 1 individual software demonstration (20%) - 1 group written report (30%) - 1 group presentation with Q & A (20%)