

<b>Module code</b>	SG-4301		
<b>Module Title</b>	Advanced Sedimentology		
<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 for the students to develop an advance understanding of sedimentary environments and sedimentary processes. Specifically, the module aims to increase the students' competency and capability in interpreting sedimentary sequences in the field and on the papers. The module is aimed to form students able to work in companies dealing with sediments and sedimentary structures, and to let them be competent in gathering information and consequently interpret them at both regional and extra basin level.</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>- recall sedimentary structures, their processes and their environment</li> <li>- remember the relations between environments, energy and grain sizes, sorting, porosity, permeability, geometry of the deposits</li> </ul>	
Middle order :	50%	<ul style="list-style-type: none"> <li>- interpret the geometries and sequences trough time and space</li> <li>- correlate sequence stratigraphy processeswith the related sedimentary environments, in terms of geometry, energy and accomodation space</li> <li>- determine sea level fluctuation from a sedimentary profile or log</li> </ul>	
Higher order:	20%	<ul style="list-style-type: none"> <li>- correlate profiles among environments in intra-and extra-basin systems</li> <li>- correlate sedimentary facies and successions and determine their evolution</li> </ul>	
<b>Module Contents</b>			
<ul style="list-style-type: none"> <li>- Processes, classification, structure and provenance of clastic sedimentary rocks</li> <li>- Facies formation, and facies model concepts; applications of process sedimentology to siliciclastic successions, from non-marine to coastal and marine environments</li> <li>- Sedimentary environments, sedimentary physical and chemical processes, sequence stratigraphy</li> <li>- Aspects of carbonate mineralogyand geochemistry</li> <li>- Basin analysis</li> </ul>			
<b>Assessment</b>	Formative assessment	Practical tests, assignments and feedback	
	Summative assessment	Examination: 50% Coursework: 50% - 5 reports from field works and group project (50%)	