Module code	SG-1203			
Module Title	Introduction to Crystallography and Mineralogy			
Degree/Diploma	Bachelor of Science (Geology)			
Type of Module	Major Core			
Modular Credits	4	**Total student Workload**	10	hours/week
		Contact hours	6	hours/week
Prerequisite	None			
Anti-requisite	None			

Aims

This module is designed to describe the basic principal ideas of crystallography, its definition, and its importance in Geosciences. The second part includes a comprehension of the physical properties of minerals, as well as of the interaction of light with minerals. The diagnostic optical properties of fundamental minerals, their classification and crystal structures are also included.

Learning Outcomes

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

Lower order :	40%	- understand the symmetry, physical and chemical properties of minerals - understand the properties of light and the interaction of light with minerals - describe crystal habits
Middle order :	50%	- classify minerals in crystal classes and crystal systems; Dana classification - explain the optical properties of minerals and their interaction with light - develop skills in macroscopic and microscopic identification of minerals - interpret the results of mineral analyses and make the relevant reports
Higher order:	10%	- combine crystal structures with mineral formations - communicate microscopic textures of minerals and argue on them - work both independently and in groups

Module Contents

- Crystal Lattice, motif and crystal structure, elements of symmetry and symmetry formula
- Crystal systems, crystallographic elements and crystal forms, crystallographic indices
- Mineral chemistry, physical properties of minerals
- Nature of light and interaction with minerals; use of polarizing microscope
- Morphological and optical properties of minerals
- Systematic classification and identification of minerals

Assessment	Formative assessment	Practical tests, assignments and feedback
	Summative assessment	Examination: 60%
		Coursework: 40% - 1 project (10%) - 1 practical examination (30%)