

Module code	SC-4319		
Module Title	Inorganic Materials Chemistry		
Degree/Diploma	Bachelor of Science (Chemistry)		
Type of Module	Major Option		
Modular Credits	2	Total student Workload	5 hours/week
		Contact hours	2 hours/week
Prerequisite	SC-1211 Fundamentals of Inorganic Chemistry		
Anti-requisite	None		
Aims			
The module is designed for students to understand the structure and properties of inorganic materials and the various techniques needed for their characterisation			
Learning Outcomes			
<i>On successful completion of this module, a student will be expected to be able to:</i>			
Lower order:	40%	<ul style="list-style-type: none"> - understand the different structure of inorganic solids - understand the various synthesis methods and characterisation techniques - relate the electronic and magnetic properties of these materials to their structures 	
Middle order:	40%	<ul style="list-style-type: none"> - analyse crystal structure from diffraction techniques - research literature and critically review articles 	
Higher order:	20%	<ul style="list-style-type: none"> - prepare slides and give a presentation -work independently 	
Module Contents			
<ul style="list-style-type: none"> - Structure of inorganic solids, basic crystallography: Bravais lattices, unit cells, lattice parameters, Miller indices and types of defects present, different types of crystal structures - Synthesis methods: ceramic, sol-gel, chemical vapour deposition, hydrothermal method etc. - Characterisation techniques: Powder X-ray diffraction, Neutron diffraction, Bragg's Law, X-ray spectroscopy, Microscopy, etc. - Properties and applications of these materials, study on selected materials 			
Assessment	Formative assessment	Tutorial and feedback	
	Summative assessment	Examination: 60% Coursework: 40% <ul style="list-style-type: none"> - 1 oral presentation (10%) - 1 written assignment (10%) - 2 class tests (20%) 	