Module code	SB-4309		
Module Title	Molecular Genetics		
Degree/Diploma	Bachelor of Science (Biology)		
Type of Module	Major Option		
Modular Credits	4	**Total student Workload**	8 hours/week
		Contact hours	6 hours/week
Prerequisite	SB-2211 Genetics		
Anti-requisite	SB-2244 Molecular Biology		

Aims

The module is designed to provide students with an in-depth understanding of the molecular components of genetics.

Learning Outcomes

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

Lower order :	40%	- Describe the structures and functions of proteins and nucleic acids - Assess how DNA can be damaged and repaired - Explain recombination - Identify transposon and other mobile elements - Evaluate RNA synthesis and processing - Describe protein synthesis
Middle order :	40%	- Analyse the different molecular mechanisms between prokaryotic and eukaryotic cells - Review the different stages of DNA replication - Conduct laboratory practicals, collect data, interpret and discuss results
Higher order:	20%	- Work effectively in groups during laboratory practicals and independently in reporting experimental results - Conduct a presentation and discussion on a research article related to molecular genetics

Module Contents

- Detailed analysis of nucleic acids and proteins
- Genome organisation and analysis
- DNA replication
- DNA damage and repair
- Recombination
- Transposons and other mobile elements
- RNA synthesis and processing
- Protein synthesis

Assessment	Formative assessment	Tutorial assignments and feedback
	Summative assessment	Examination: 60%
		Coursework: 40% - 4 practical assignments (20%) - 2 class tests (10%) - 1 oral presentation (10%)