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| 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 | | | |
| <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"> - 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% | <ul style="list-style-type: none"> - 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% | <ul style="list-style-type: none"> - 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 | | | |
| <ul style="list-style-type: none"> - 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% <ul style="list-style-type: none"> - 4 practical assignments (20%) - 2 class tests (10%) - 1 oral presentation (10%) | |