



MODULE SPECIFICATION

Part 1: Information			
Module Title	Practical Cell Biology and Biochemistry		
Module Code	USSKNG-30-1	Level	Level 4
For implementation from	2020-21		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: This module will cover the following topics:</p> <p>Biological chemistry: structure and function of biological macromolecules.</p> <p>Cell Biology: structure and function of prokaryotic and eukaryotic cells and their organelles. Membrane structure and transport across membranes via diffusion, carrier proteins, channels, active transport.</p> <p>Key techniques in cell biology, biochemistry and genetics: microscopy, PCR, analysis of DNA and protein by gel electrophoresis, enzyme kinetics.</p> <p>Introduction to metabolism: an overview of catabolic and anabolic pathways. Enzymes as biological catalysts and factors influencing rates of enzymatic reactions. The major pathways of carbohydrate and lipid metabolism and their significance in health and disease.</p>

STUDENT AND ACADEMIC SERVICES

Studying genes: genes and gene expression: transcription, RNA processing and translation. DNA replication. Role of mutations. PCR and gene cloning.

Inheriting genes. Mendelian genetics. Gene inheritance patterns in humans and molecular approaches to diagnosing and treatments of genetic disorders.

Teaching and Learning Methods: This module aims to deliver specialist knowledge through taught lectures, seminars and practical sessions to promote application of knowledge acquired, analytical and problem-solving skills.

Independent learning includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.

Part 3: Assessment

The assessment strategy has been designed to support and enhance the development of subject-based knowledge and practical skills, whilst ensuring that the learning outcomes are achieved.

Component A is a viva voce (20 minute) and short written submission. This assessment will provide students with an opportunity to demonstrate depth and breadth of their knowledge on a broad range of topics through a series of questions and discussions. This assessment will test a range of the learning outcomes and will provide a valuable learning experience of a viva.

The coursework is comprised of a 1500 word essay and laboratory reports arising from primary and/or secondary data. This assessment will provide a valuable practical learning experience, development of analytic skills, as well as independent research of published literature and development of academic writing style.

Opportunities for formative assessment and feedback are built into teaching and practical sessions, through discussion and evaluation of current research and review of past exam papers. Students are provided with formative feed-forward for their viva through revision and preparation sessions.

First Sit Components	Final Assessment	Element weighting	Description
Presentation - Component A		40 %	Oral exam, including written submission (20 mins)
Written Assignment - Component B		18 %	Essay (1500 words)
Report - Component B	✓	42 %	Laboratory Reports
Resit Components	Final Assessment	Element weighting	Description
Presentation - Component A		40 %	Oral exam, including written submission (20 mins)
Written Assignment - Component B		18 %	Essay (1500 words)
Report - Component B	✓	42 %	Laboratory Reports based on secondary data

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:
-------------------	--

STUDENT AND ACADEMIC SERVICES

	Module Learning Outcomes		Reference
	Describe the ultrastructure and function of prokaryotic and eukaryotic cells, organelles and biological membranes		MO1
	Describe the key features and properties of nucleic acids, proteins, lipids and carbohydrates		MO2
	Describe key pathways in carbohydrate and lipid metabolism and explain how energy from metabolism is channelled into ATP synthesis		MO3
	Describe the modes of inheritance and explain how genetic material can be altered		MO4
	Demonstrate key practical skills and skills of data analysis in cell biology, genetics and biochemistry		MO5
	Discuss current applications and impact of cell biology, genetics and biochemistry		MO6
Contact Hours	Independent Study Hours:		
	Independent study/self-guided study		210
	Total Independent Study Hours:		210
	Scheduled Learning and Teaching Hours:		
	Face-to-face learning		90
	Total Scheduled Learning and Teaching Hours:		90
	Hours to be allocated		300
	Allocated Hours		300
Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/index.html</p>		

Part 5: Contributes Towards

This module contributes towards the following programmes of study: