UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Research Topics 1 in Medical Biochemistry
Module Code	BIS6009-B
Academic Year	2020/1
Credits	20
School	School of Chemistry and Biosciences
Subject Area	Biomedical Science
FHEQ Level	FHEQ Level 6
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Online Lecture (Synchronous)	25
Online Tutorials (Synchronous)	3
Laboratories	9
Seminars	2 (seminar assessment)
Directed Study	161

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1

Module Aims

To expand knowledge and critical understanding gained in Biochemistry, Clinical and Analytical Biochemistry by studying the biochemical processes of protein expression, turnover and post-translational modifications and their role in disease;

To develop critical appreciation of research methodologies, data handling, and data interpretation in selected fields;

To develop practical and presentation skills.

Outline Syllabus
The biochemical basis of several diseases that result from changes in levels of protein expression; biochemical regulation of protein production and post-translational modifications; biochemical and molecular basis of cardiovascular disease, apoptosis, aging and oncogenic pathways. This biochemical knowledge will be utilised to evaluate clinical scenarios and use experimental approaches to your study (HCPC standard 3a1).

Learning Outcomes	
Outcome Number	Description
01	Discuss the biochemical basis of post-translational modifications of proteins involved in signal transduction and how this is compromised in selected disease states, particularly cardiovascular disease and cancer.
02	Understand the biochemical basis of proteolytic enzymes with detailed examples of apoptosis in both normal and disease states.
03	Evaluate the role of protein modifications (acetylation and methylation), the process of transcription regulation, changes in central metabolic pathways and the biochemical basis of aging in disease states.
04	Report, interpret and present scientific data, including evaluation of experimental design, using the correct scientific terminology (HCPC standards 3, 14, 10, 15).
05	Critically analyse and evaluate experimental data presented in the primary scientific literature to select and explain key complex aspects, which are at the forefront of the discipline (HCPC standards 1, 8, 13, 14).
06	Demonstrate knowledge and understanding of a range of appropriate research methodologies (HCPC standard 15).
07	Demonstrate an effective self-management of workload, time and resources to prepare and deliver concise oral reports, (HCPC standards 1, 3, 8, 10, 14).

Learning, Teaching and Assessment Strategy

Development of knowledge, understanding and critical appreciation of the subject material will be via lectures and applied in laboratory and seminar sessions. The core knowledge for this module is supplemented by reference to current published scientific literature which requires extensive further reading and autonomous learning by the students.
The specific laboratory skills required are developed in a series of practical classes and data analysis and interpretation skills are assessed by a written coursework test. The ability to explain scientific information clearly and concisely is assessed by student-led presentations on a research topic in medical biochemistry.
During directed study hours, students are expected to undertake reading to consolidate and expand on the content of formal taught sessions; research and prepare for assessments; revise material from formal taught sessions; and undertake specific elements of reading as directed.
Private study will be facilitated and supported via the use of the VLE which will provide coursework advice and feedback, and revision support.
Reassessment of failed elements will be as per the original method of assessment. Where reassessment of the laboratory practical element is required, students will be given a data set or an opportunity to complete the laboratory practical on an alternative occasion, whichever is more appropriate.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Presentation	Individual oral presentation	15 mins	20%
Summative	Examination - Open Book	Online assessment comprising two from a choice of five essays	2 hour	60%
Summative	Computer-based assessment	E-Assessment on the practical class material, which includes MCQ and short answer questions	1 hour 30 mins	20%
Formative	Presentation	Students have a formative presentation session which involves presenting and peer observation (LO 4-7)	15 minutes	N/A

Reading List

To access the reading list for this module, please visit https://bradford.rl.talis.com/index.html

Please note:
This module descriptor has been published in advance of the academic year to which it applies. Every effort has been made to ensure that the information is accurate at the time of publication, but minor changes may occur given the interval between publishing and commencement of teaching. Upon commencement of the module, students will receive a handbook with further detail about the module and any changes will be discussed and/or communicated at this point.
