UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Research Topics 1 in Cancer Biology and Therapeutics
Module Code	BIS6007-B
Academic Year	2022/3
Credits	20
School	School of Chemistry and Biosciences
FHEQ Level	FHEQ Level 6

Contact Hours	
Type	Hours
Laboratories	4
Tutorials	6
Lectures	23
Directed Study	167

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

Module Aims

The aims of this module are to: Deepen student's knowledge of the biochemistry, pathology and molecular biology of cancer, and its treatment using conventional chemotherapeutic drugs; to make students aware that knowledge and understanding of the molecular basis of cancer is driving the development of a new generation of targeted therapeutics; to facilitate the development of practical skills and extend competence in oral and written communication

Outline Syllabus

The module has three key areas, the first is to understand the molecular basis of cancer, carcinogenesis and cancer genetics, with lectures on oncogenes, tumour suppressors, DNA repair, ageing/senescence, epigenetics, infectious agents and carcinogenesis. The second theme is cancer biology with lectures on regulation of the cell cycle, altered metabolism, apoptosis, autophagy, growth and anti-growth signalling, cancer stem cells, angiogenesis, invasion and metastasis. The third theme is molecular pathology of cancer, with emphasis on the detection, diagnosis and treatment of cancer; with lectures on classical pathology techniques, molecular pathology techniques, radio-therapy, immunotherapy, and chemo-therapy, and targeted therapeutics. Current cancer research literature will be critically appraised, laboratory investigations conducted, data analysed and concise reports written.

Learning Outcomes	
Outcome Number	Description
01	Discuss cancer biology and pathology, and the molecular basis of cancer.
02	Discuss how the hallmarks of cancer, explain and evaluate how these are driving forward the new generation of targeted therapeutics (HCPC standard 13).
03	Report, interpret and present scientific data, including evaluation of experimental design, using the correct scientific terminology (HCPC standards 3, 14, 10, 15).
04	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).
05	Demonstrate knowledge and understanding of a range of appropriate research methodologies (HCPC standard 15).
06	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
The module will be delivered through onsite and online synchronous lectures, onsite workshops and a practical session.

Mode of Assessment			
Type	Method	Description	Weighting
Summative	Presentation	Individual oral presentation (LO 3-6) (15 mins)	20%
Summative	Coursework	Online assessment comprising of 2 essays (LO1-2) (32 Hrs)	60%
Summative	Examination - Closed Book	Class test based on the practical material (LO3-5) (1.5 Hrs)	20%
Formative	Presentation	Students have a formative presentation session which involves presenting and peer observation (LO 3-6)	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.

https://bradford.ac.uk