UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title	Molecular Basis of Cancer and Cancer Therapy
Module Code	INC7002-B
Academic Year	2023/4
Credits	20
School	School of Pharmacy and Medical Sciences
FHEQ Level	FHEQ Level 7

Contact Hours	
Type	Hours
Tutorials	8
Lectures	22
Directed Study	167

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Semester 1
BDA	University of Bradford / Semester 3

Module Aims

To develop a systematic and critical understanding of the hallmarks of cancer, their implications for cancer treatment and opportunities for therapeutic intervention. The molecular biology of cancer will illustrate the identification of potential targets for therapeutic intervention and the importance of tumour pathology current and future treatment strategies.

Outline Syllabus

There are two major themes within this module. The first is designed to inform students of current practise in oncology and develop understanding of the Hallmarks of Cancer. In practical terms, the themes will focus on the classification of tumours, pathological parameters used to determine therapeutic intervention strategies and classical chemotherapeutic drugs. The latter will focus on the classification of current drugs, their mechanism of action and the problems associated with current drugs (i.e. toxicity, multi-drug resistance etc). It is widely acknowledged that new therapeutics are required and that tumour biology represents the driving force behind the development of new therapeutics. In order to understand these new approaches, the cancer pharmacologist must have a good understanding of the molecular and genetic/epigenetic basis of cancer and this therefore forms the basis of the second major theme in this module. This section will cover the 'hallmarks of cancer' in terms of self sufficiency in growth signals, evading apoptosis, insensitivity to anti-growth signals, sustained angiogenesis, tissue invasion and metastasis, unlimited replicative potential and genetic instability.

Learning Outcomes	
Outcome Number	Description
01	Critically evaluate the molecular basis of cancer, its classification, current treatment approaches for cancer and the concept of target identification and validation as applied to anti-cancer drug discovery.
02	Develop a strategy to present a discussion of a research paper in a journal format.
03	Critically evaluate the hallmarks of cancer and discuss their wider implications in cancer therapeutics.

Learning, Teaching and Assessment Strategy

Over the semester, there will be a range of lectures, seminars, workshops and assessments. Topics are based upon the Hallmarks of Cancer and their application in cancer therapeutics.

The emphasis throughout will be placed on the differences that exist between tumour and normal cells as these represent a key step in developing novel therapeutics.

Students will extend their literature searching, presentation and report writing skills in preparing a journal club, and molecular target journal article.

Mode of Assessment

Type	Method	Description	Weighting
Summative	Examination - oral/viva voce	Oral examination of Hallmarks of Cancer - 1 slide (15 mins)	40%
Summative	Presentation	Oral poster presentation (journal club)	20%
Summative	Coursework - Written	Molecular Target Journal Article (4 A4 pages)	40%
Formative	Examination - oral/viva voce	Formative workshop: question and answer session related to Hakkmarks of Cancer	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.
