UNIVERSITY of BRADFORD

Module Descriptor

Module Details	
Module Title:	Preclinical Models for Drug Evaluation
Module Code:	INC7001-B
Academic Year:	2019-20
Credit Rating:	20
School:	School of Pharmacy and Medical Sciences
Subject Area:	Cancer Therapeutics
FHEQ Level:	FHEQ Level 7 (Masters)
Pre-requisites:	
Co-requisites:	

Contact Hours	
Type	**Hours**
Lectures	12
Seminar	14
Directed Study	174

Availability	
Occurrence	**Location / Period**
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

To provide students with the opportunity to develop

- The knowledge and ability to solve complex problems and justify their decisions.
- Techniques for current and critical evaluation of pre-clinical models used to evaluate potential anti-cancer drugs.
- An understanding of the ethics involved in experimental work with animals.
- The ability to reflect on their practice to inform and plan their professional development.

Outline Syllabus

Topics to be covered include; in vitro based experimental models, biochemical assays for

investigating drug target interactions, toxicology (in vitro and in vivo), in vivo models including syngeneic, xenografts and orthotopic models, novel molecular models of tumour biology, non-invasive imaging techniques, endpoint analysis for assessing efficacy and ethical issues associated with animal usage (the 3R's). Emphasis will be placed upon a critical analysis of the value of experimental models in terms of how data obtained in the laboratory setting translates into clinical activity and current or emerging issues in this field, particularly with regards to the ethics of animal testing.

Learning Outcomes

1	Demonstrate a systemic understanding of the pre-clinical screening pathway.
2	Demonstrate a systemic understanding of the types of assays and models which are utilised in the pathway.
3	Critically evaluate pre-clinical models, their advantages, disadvantages and ethical issues as applied to the field of anti-cancer drug development.
4	Systematically gather, critically analyse and evaluate data in order to develop screening strategies for specific drug types.
5	Demonstrate a sound understanding of the relevant ethical and experimental issues involved with using animals in preclinical screening.
6	Utilise generic literature skills for life-long learning (literature and databases).
7	Explore ethical considerations when carrying out experimentation.

Learning, Teaching and Assessment Strategy

Learning outcomes 1-5 are developed and achieved through a combination of lectures and case studies that cover key topics and give applied examples with evidence based content delivered by faculty experts with students encouraged to identify evidence based arguments and critique these in relation to different therapies. Sources of material for directed study will be revealed to the students during the lecture course. This will include relevant slides, web-sites, documents and a range of online resources.

Learning outcomes 6 & 7 are developed primarily by completion of 2 pieces of coursework. The more expansive essay-based second piece of coursework will be informed by feedback to the first piece of coursework which consists of directed structured questions.

Mode of Assessment

Type	Method	Description	Length	Weighting
Summative	Coursework	A detailed essay setting out a pre-clinical screening strategy	0-2000 words	70%
Summative	Coursework	Directed questions on a pre-clinical screening strategy		30%

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.