

Module Details	
Module Title	Integrated Medical Sciences
Module Code	CLS4004-C
Academic Year	2020/1
Credits	30
School	School of Pharmacy and Medical Sciences
Subject Area	Clinical Sciences
FHEQ Level	FHEQ Level 4
Pre-requisites	N/A
Co-requisites	N/A

Contact Hours	
Type	Hours
Online Lecture (Asynchronous)	49
Online Seminar (Synchronous)	10
Learning Objects Interaction	12
Laboratories	4
Directed Study	225

Availability	
Occurrence	Location / Period
BDA	University of Bradford / Academic Year

Module Aims
To provide a basic introduction to the molecules, cells and tissues which underpin normal structure and function and to provide basic knowledge of embryology and genetics. To provide a basic introduction to the physiology, pharmacology, infection and immunology which underpin normal structure and function. To facilitate an understanding of how abnormalities of structure can lead to functional disorder and disease processes and the scientific basis for infectious and non-infectious disease.

Outline Syllabus

Light Microscopy and introduction to ultra-structural examination of tissue and diagnostic use. Cells, genes and organelles: cell structure and function. Introduction to medical and clinical genetics. Genetic variation and chromosomes. Screening for genetic abnormalities. Gene polymorphisms and pharmacogenomics.

Epithelia and connective tissue/skin; Relationship between epithelial defects and diseases. Connective tissues; blood cells and disorders, blood vessels and lymphatic. Muscle and nerves; skeletal, cardiac and smooth muscle, central nervous system, Skeletal Tissues; cartilage, joints and bone. Exocrine and endocrine system. Cardiac and smooth muscle. Male and female reproductive systems.

Introduction to anatomy, anatomy of the pelvis and reproductive organs.

Basic embryology. Embryological derivation of tissues. Reproduction.

Enzyme and protein structure and function; Enzymes in disease.

Membranes and lipids; transport across membranes, cholesterol and lipoproteins.

Overview of the nervous system and neurosecretion. Basic concepts in pharmacology.

Skeletal muscle and muscle contraction. Neuromuscular transmission. Passage of drugs across membranes.

Causes of infection. Hospital acquired infection and antibiotic resistance. Diagnosis, treatment and prevention of infections. Immunity and infection; Introduction to immunology. Non-immunological defence mechanism.

Principles and regulation of the immune response. Autoimmune disease. Aetiology of cancer and neoplasia.

Learning Outcomes

Outcome Number	Description
01	Describe the normal structure and function of molecules, cells and tissues which underpin normal structure and function and their relevance to the diagnosis of disease.
02	Describe the fundamentals of anatomy, physiology, pharmacology, infection and immunology which underpin normal structure and function and their relevance to the diagnosis of disease and therapeutic strategies.
03	Use basic histological techniques, be able to recognise cells, tissues and organs, successfully use a light microscope, describe and recognise transmission electron microscope images.
04	Apply scientific principles to medical practice.
05	Be able to work in small groups to achieve given targets and review your progress on the module.

Learning, Teaching and Assessment Strategy

Information outlining the knowledge and understanding required is delivered in lectures. Tutorials, practicals? and workshops will be used to reinforce the taught component and formative assessments will allow you to monitor your progress. These will be supplemented by web-based learning and self-directed learning to support each topic will take place within the directed study time.

Mode of Assessment				
Type	Method	Description	Length	Weighting
Summative	Computer-based assessment	Online MCQ assessment	1 hour 30 mins	60%
Summative	Examination - Open Book	Online problem-based assessment	3 hour	20%
Summative	Computer-based assessment	Online Histology Exam via Canvas	30 mins	20%

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.

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