MODULE SPECIFICATION

Part 1: Information			
Module Title	Pharmacology and Toxicology		
Module Code	USSKBX-15-3	Level	Level 6
For implementation from	2020-21		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

Overview: Pre-requisites:
Students must have taken USSJRT-30-1 Chemistry in Context or USSKC5-30-1 Chemistry for Forensic Science and Data Analysis or USSKA4-30-1 Cell Biochemistry and Genetics

Educational Aims: See Learning Outcomes

Outline Syllabus: To illustrate important current topics in this field, and to highlight aspects of both pharmacology and toxicology, a selection of the following will be discussed in detail as case studies:

Anti-depressants - development of tricyclics, SSRIs, mechanism of action.

Antipsychotic drugs – treatment of schizophrenia

Local Anaesthetics - structure-activity relationships, impact on onset and duration of action.

Platinum and cis-platin – design and development of anti-cancer drugs.

Arthritis and aurofin - historical and contemporary medicinal uses of gold.

Organomercurials - origins and human toxicology.

Lead and cadmium - origins and symptoms of poisoning, methods of treatment.

Medical toxicology – Symptoms of poisoning, decontamination and antidotes. Chelation therapy to remove toxic metals.

Assessing toxicity and physiological response by bioassay and biomarkers.

Teaching and Learning Methods: The material will be delivered using a combination of lectorials and workshops. These will be augmented by directed reading in the recommended texts and other appropriate scientific literature, including selected journals, for example, Toxicology and Applied Pharmacology, Metallomics, Toxicology Research. The topics selected for delivery by workshops will be designed to enhance problem solving skills.

Technology enhanced learning will be embedded within teaching materials via links to supplementary electronic online resources of the textbook and other relevant information portals, for example, http://www.chemspider.com. Use will also be made of various in-house electronic resources and flash videos in chemistry for biologists available at http://calcscience.uwe.ac.uk. Student learning will be further supported through a variety of materials posted on the University's E-Learning Environment, Blackboard.

Contact: This module will run in semester 1.

Lectorials and workshops - 33 hours

Independent learning will take the following forms with an approximate indication of time required for each:

Essential reading to support acquisition of knowledge and completion of problem solving skills exercises relating to lectures and workshops– 40 hours
Preparation and submission of coursework 1 – 37 hours
Revision and preparation for exams – 37 hours

Part 3: Assessment

Students will complete assessed worksheets based on synthesis and characterisation of selected metal complexes and drug models and on the principles of metal pharmacology and toxicology.

The examination will assess the students' knowledge acquired during lectures and workshops, and from their own directed, independent learning

First Sit Components	**Final Assessment**	**Element weighting**	**Description**
Examination (Online) - Component A	✓	60 %	Online examination (24 hours)
Written Assignment - Component B		40 %	Worksheets
Resit Components	**Final Assessment**	**Element weighting**	**Description**
Examination (Online) - Component A	✓	60 %	Online examination (24 hours)
Written Assignment - Component B		40 %	1,000 word essay

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will achieve the following learning outcomes:

Module Learning Outcomes	Reference
Discuss the action and development of selected examples of medicines and drugs.	MO1
Provide and rationalise different medicinal strategies for detoxification and therapy following poisoning.	MO2
Compare and contrast the human toxicology of a range of metals and their compounds.	MO3
Critically evaluate current research utilising metallodrugs as therapeutic agents.	MO4

Contact Hours

Independent Study Hours:	
Independent study/self-guided study	117
Total Independent Study Hours:	117
Scheduled Learning and Teaching Hours:	
Face-to-face learning	33
Total Scheduled Learning and Teaching Hours:	33
Hours to be allocated	150
Allocated Hours	150

Reading List

The reading list for this module can be accessed via the following link:

https://uwe.rl.talis.com/modules/usskbx-15-3.html

Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Forensic Science [Sep][FT][Frenchay][4yrs] MSci 2018-19

Biomedical Science [Sep][FT][Frenchay][4yrs] MSci 2018-19

Forensic Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19

Biomedical Science [Sep][FT][Frenchay][3yrs] BSc (Hons) 2018-19