



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Drugs and Toxicology		
Module Code	USSKAV-30-2	Level	Level 5
For implementation from	2020-21		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	Chemistry in Context 2020-21		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Overview:</b> This module examines the boundary between a therapeutic agent or medicine and a poison.</p> <p><b>Educational Aims:</b> The following Generic Graduate Skills will be practiced:</p> <p>Innovative and Enterprising            Forward Looking            Emotional Intelligence</p> <p>The following Generic Graduate Skills will be evidenced:</p> <p>Communication            Professionalism            Critical Thinking            Digital Fluency            Globally Engaged</p> <p><b>Outline Syllabus:</b> Topics covered include:</p> <p>The origins and characteristics of poisons/medicines, including exposure/administration.</p> <p>The cholinergic system – from weaponised chemicals to medicines.</p>

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The principles and practice of pharmacokinetics & pharmacodynamics. Metabolism of drugs and toxins - absorption, distribution, biotransformation and excretion.

The identification and quantification of drugs and poisons in biological fluids. Consideration of interferences and interpretation issues relating to forensic toxicology.

The impact of fundamental molecular biology and genetics upon drug discovery, development and toxicology.

The concept of selective toxicity and the mechanisms by which drugs achieve selectively toxic effect.

Genotoxic agents - fundamentals of cell proliferation and the role of normal, disordered and altered gene function in diseases such as leukaemia and solid tumours.

Synergy and antagonism between chemicals within the body.

The foundational principles and mechanisms of toxicology in relation to drug safety evaluation.

**Teaching and Learning Methods:** Students will engage in facilitated activities such as lectorials, debates, case studies, problem based learning etc. Practical laboratory sessions will provide experience of techniques relevant to the area and the chemical sciences in general. Practical sessions will provide opportunities for data handling and interpretation, problem solving and discussions with academic staff. Lectorials will provide contexts and overviews of topics to guide student-centred learning. Wherever possible, lectorials are supplemented by audio-visual material (e.g. BoB) showing specific examples relevant to toxicology and its practice based context.

### Part 3: Assessment

The Assessment Strategy has been designed to support and enhance the development of both subject-based and employability skills, whilst ensuring that the modules Learning Outcomes are attained, as described below.

The coursework is a practical report which is based on the laboratory practical classes. Successful completion of this component requires the detailed recording of data followed by analysis, interpretation and discussion of these data. The recording and analysis of laboratory data is a vital skill for forensic science students consequently this assessment can be described as an assessment to enhance employability and learning.

Component A comprises of two online exams, with a 24 hour window for completion. These assessments will provide students with an opportunity to demonstrate both their knowledge on a broad range of topics through a series of short answer questions, and more in-depth knowledge through a selection of medium length questions. They will test a range of the learning outcomes and will provide a valuable learning experience through recalling and demonstrating knowledge which will be of benefit when progressing to final year modules.

All work is marked in line with the Faculty of Health and Applied Sciences Generic Assessment Criteria for level 2.

First Sit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A		25 %	Online examination 1 (24 hours)
Examination - Component A	✓	25 %	Online examination 2 (24 hours)
Laboratory Report - Component B		50 %	Practical Laboratory Report (2000 words)

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Resit Components	Final Assessment	Element weighting	Description
Examination (Online) - Component A	✓	50 %	Online examination (24 hours)
Laboratory Report - Component B		50 %	Practical Laboratory Report based on provided data (2000 words)

Part 4: Teaching and Learning Methods																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th>Module Learning Outcomes</th> <th>Reference</th> </tr> </thead> <tbody> <tr> <td>Communicate an appropriate level of understanding of the range and variation of toxic materials, and of their occurrence and possible routes of entry into the body</td> <td>MO1</td> </tr> <tr> <td>Describe the sources, development, formulation, control and administration of drugs, poisons and toxic materials</td> <td>MO2</td> </tr> <tr> <td>Discuss the significance of chemical properties and concentration gradients of potential drugs and poisons, to absorption, distribution, biotransformation and excretion (that is, pharmacokinetics)</td> <td>MO3</td> </tr> <tr> <td>Undertake practical work to examine the characteristics of medicines/toxins, and present, analyse and interpret these data</td> <td>MO4</td> </tr> </tbody> </table>	Module Learning Outcomes	Reference	Communicate an appropriate level of understanding of the range and variation of toxic materials, and of their occurrence and possible routes of entry into the body	MO1	Describe the sources, development, formulation, control and administration of drugs, poisons and toxic materials	MO2	Discuss the significance of chemical properties and concentration gradients of potential drugs and poisons, to absorption, distribution, biotransformation and excretion (that is, pharmacokinetics)	MO3	Undertake practical work to examine the characteristics of medicines/toxins, and present, analyse and interpret these data	MO4						
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Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p><a href="https://uwe.rl.talis.com/modules/usskav-30-2.html">https://uwe.rl.talis.com/modules/usskav-30-2.html</a></p>																

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### Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Forensic Science {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19  
Forensic Science {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2018-19  
Forensic Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2018-19  
Forensic Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2018-19