Module Descriptor

Title	Forensic Toxicology		
Session	2025/26	**Status**	Published
Code	CHEM09024	**SCQF Level**	9
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Computing, Engineering and Physical Sciences**		
Module Co-ordinator	Ann-Sophie Korb		

Summary of Module

Forensic toxicology is the study of fate of drugs and poisons in the body in the context of forensic investigations using analytical chemistry. A review of the various biological matrices commonly encountered in toxicology, Phase 1 and 2 metabolic processes and how these affect commonly used drugs within the body are key themes within this module. The module will also cover key drugs of abuse and various forensically important pharmaceuticals.

In lectures and laboratories, the extraction of various compounds from biological matrices, instrumental analysis of drugs and poisons, including alcohol, as well as the interpretation of results from toxicological analysis/case studies in especially post-mortem samples will be covered and explored.

This module will work to develop a number of the key 'I am UWS' Graduate Attributes. Those who complete this module will develop professional attributes of being research minded, an effective communicator and inquiring mind. It will also develop the knowledge, skills and abilities related to high-level academic study of sciences.

Module Delivery Method	**On-Campus[1]** ☒	**Hybrid[2]** ☐	**Online[3]** ☐	**Work -Based Learning[4]** ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☐ Lanarkshire ☐ London ☒ Paisley	☐ Online / Distance Learning ☐ Other (specify)	

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

Terms for Module Delivery	Term 1	☒	Term 2	☐	Term 3	☐
Long-thin Delivery over more than one Term	Term 1 – Term 2	☐	Term 2 – Term 3	☐	Term 3 – Term 1	☐

Learning Outcomes	
L1	Display a knowledge and understanding of the fate of drugs of abuse and alcohols within the body
L2	Show understanding of various extraction and analytical techniques used in the analysis of selected compounds of forensic interest from biological matrices
L3	Demonstrate an ability to review and evaluate toxicological data from a variety of sources including the toxicological literature and instrumental data
L4	Analyse and interpret laboratory data from toxicologically relevant specimens/substances
L5	

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 9** Display a knowledge and understanding of the fate of drugs of abuse and alcohol within the body
Practice: Applied Knowledge and Understanding	**SCQF 9** Show understanding of various extraction and analytical techniques used in the analysis of compounds of forensic interest from biological matrices
Generic Cognitive skills	**SCQF 9** Interpretation of analytical results with comparison to the scientific literature and forensic toxicology databases
Communication, ICT and Numeracy Skills	**SCQF 9** Discuss and justify interpretation of results to peer group Searching of databases for toxicological information
Autonomy, Accountability and Working with Others	**SCQF 9** Discuss critically various ethical issues in toxicology, e.g. Human Tissue Act, Forensic Science Regulator, as well as Guidelines

Prerequisites	**Module Code** CHEM08004	**Module Title** Chemical Analysis & Evaluation
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching
In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours.

Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	24
Laboratory / Practical Demonstration / Workshop	24
Independent Study	152
Please select	
Please select	
Please select	
TOTAL	

Indicative Resources
The following materials form essential underpinning for the module content and ultimately for the learning outcomes: Drummer, O.H., Odell, M. (2001) The Forensic Pharmacology of Drugs of Abuse. London: Arnold. Karch, S.B. (2008) Postmortem Toxicology of Abused Drugs. Boca Raton, London: CRC Press. Klaassen, C.D., Watkins, J.B. (2021) Casarett and Doull's Essentials of Toxicology. New York: McGraw Hill. Negrusz, A., Cooper, G.A.A (2013) Clarke's Analytical Forensic Toxicology. London: Pharmaceutical Press.
(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

Attendance and Engagement Requirements
In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time. **For the purposes of this module, academic engagement equates to the following:** The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below

this, you will be referred to the Student Success Team to see how we can best support your studies.

Equality and Diversity
The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code. Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. This module has lab-based teaching and as such you are advised to speak to the Module Co-ordinator to ensure that specialist assistive equipment, support provision and adjustment to assessment practice can be put in place, in accordance with the University's policies and regulations.
(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)

Supplemental Information

Divisional Programme Board	**Engineering Physical Sciences**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☒ **Yes** ☒ **No** **If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.**
School Assessment Board	Physical Sciences
Moderator	Mostafa Rateb
External Examiner	Ian Turner
Accreditation Details	This is a core module in the BSc (Hons) Forensic Science programme which is accredited by the Chartered Society of Forensic Science. This is an optional module in the BSc (Hons) Chemistry programme which is accredited by the Royal Society of Chemistry
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	Attendance and Engagement statements updated. Equality and Diversity statement updated. Updated Accreditation details.

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Unseen, invigilated Class Test (60%)
Assessment 2
Laboratory Assessments (20%)

Assessment 3
Written Report (20%)
(N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed. (ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.)

Component 1							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Unseen, invigilated class test	☒	☒	☒	☒	☐	60	2

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Laboratory work Written report	☒	☒	☒	☒	☐	40	

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	2 hours

Change Control

What	**When**	**Who**