

University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Forensic Toxicology			
Code: CHEM09024	SCQF Level: 9 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS: 10 (European Credit Transfer Scheme)
School:	School of Computing, Engineering, and Physical Sciences		
Module Co-ordinator:	Ann-Sophie Korb		
Summary of Module			
<p>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.</p> <p>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.</p> <p>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.</p>			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	Hybrid 0	Work-Based Learning
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
See Guidance Note for details.					

Campus(es) for Module Delivery
The module will normally be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit) (tick as appropriate)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Add name

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1	<input checked="" type="checkbox"/>	Term 2	<input type="checkbox"/>	Term 3	<input type="checkbox"/>
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Learning Outcomes: (maximum of 5 statements)

These should take cognisance of the SCQF level descriptors and be at the appropriate level for the module.

At the end of this module the student will be able to:

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

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 Level 9 Display a knowledge and understanding of the fate of drugs of abuse and alcohol within the body
Practice: Applied Knowledge and Understanding	SCQF Level 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 Level 9 Interpretation of analytical results with comparison to the scientific literature and forensic toxicology databases

Communication, ICT and Numeracy Skills	SCQF Level 9 Discuss and justify interpretation of results to peer group Searching of databases for toxicological information	
Autonomy, Accountability and Working with others	SCQF Level 9 Discuss critically various ethical issues in toxicology, e.g. Human Tissue Act, Forensic Science Regulator, as well as Guidelines	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: CHEM08004	Module Title: Chemical Analysis & Evaluation
	Other:	or other suitable alternative
Co-requisites	Module Code:	Module Title:

*Indicates that module descriptor is not published.

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 (Normally totalling 200 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
	200 Hours Total
**Indicative Resources: (eg. Core text, journals, internet access)	

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.

Please ensure the list is kept short and current. Essential resources should be included, broader resources should be kept for module handbooks / Aula VLE.

Resources should be listed in Right Harvard referencing style or agreed professional body deviation and in alphabetical order.

(*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:

Attendance of all classes, regular engagement with online materials, and submission of assessments.

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 is laboratory-based 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. More information on the University's EDI policies can be accessed at:

<https://www.uws.ac.uk/about-uws/uws-commitments/equality-diversity-inclusion/> UWS Equality and Diversity Policy

(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	Physical Sciences
Assessment Results (Pass/Fail)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
School Assessment Board	Physical Sciences
Moderator	Mostafa Rateb
External Examiner	I Turner
Accreditation Details	This module is part of a programme Accredited by the Chartered Society of Forensic Sciences
Changes/Version Number	<p>Summary of Module minor edits</p> <p>Module Delivery: From Hybrid-C to Face-to-Face.</p> <p>Learning Activities: Removal of 12 hours tutorial, which have been moved to the Lecture / Content Delivery.</p> <p>Attendance and Engagement Requirements: sentence added to clarify meaning of attendance/engagement in this module.</p> <p>Accreditation Details: Chartered Society of Forensic Sciences added.</p> <p>Assessment: Change from 'unseen open book' to 'unseen closed book Class Test'.</p>

Assessment: (also refer to Assessment Outcomes Grids below)

Assessment 1 – Unseen closed-book Class Test (60%)

Assessment 2 – Laboratory, written assessments (40%)

(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.)

Assessment Outcome Grids (See Guidance Note)

Component 1							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Unseen closed book Class Test	X	X	X	X		60	2

Component 2							
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Learning Outcome (5)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Laboratory	X	X	X			20	
Essay		X	X	X		20	
Combined Total for All Components						100%	2 hours