

## University of the West of Scotland

## Module Descriptor

Session: 2024/25

<b>Title of Module: Forensic Biology</b>			
<b>Code: CHEM10010</b>	<b>SCQF Level: 10 (Scottish Credit and Qualifications Framework)</b>	<b>Credit Points: 20</b>	<b>ECTS: 10 (European Credit Transfer Scheme)</b>
<b>School:</b>	School of Computing, Engineering and Physical Sciences		
<b>Module Co-ordinator:</b>	Carrie Mullen		
<b>Summary of Module</b>			
<p>This module enhances students' understanding of the science and techniques that underpin forensic biology. Topics covered will include identification of biological fluids, the analysis of the human genome in forensic biology, blood stain pattern analysis and forensic anthropology.</p> <p>The module will focus on the use of biological evidence in sexual offences and expand on the analytical methods covered in previous modules to include more detailed understanding of real-time PCR and a more in-depth study of evaluative reporting. Where possible, material covered in lectures will be illustrated through lab work.</p> <p>This module will strengthen several of the key 'I am UWS' Graduate Attributes, with students acquiring competencies in: Critical Thinker, Collaborative, Autonomous, Problem Solver.</p>			

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

<b>Campus(es) for Module Delivery</b>						
The module will <b>normally</b> 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
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**Term(s) for Module Delivery**

(Provided viable student numbers permit).

Term 1	<input type="checkbox"/>	Term 2	<input checked="" 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	Comprehend and work to the analytical, laboratory and legal requirements of producing DNA STR profiles, in the UK and elsewhere
L2	Perform interpretation of DNA STR profiling results, including calculation of likelihood ratios.
L3	Critically evaluate DNA STR profiling results citing significant research in the field.
L4	Show an understanding of the scientific basis and utilisation of techniques of bone anthropometry and pathology in the study of human tissue
L5	Demonstrate the ability to critically evaluate body fluid evidence and blood stain patterns

**Employability Skills and Personal Development Planning (PDP) Skills**

<b>SCQF Headings</b>	During completion of this module, there will be an opportunity to achieve core skills in:
Knowledge and Understanding (K and U)	SCQF Level <b>10</b> Critical analysis and understanding of the biology that underpins forensic science.
Practice: Applied Knowledge and Understanding	SCQF Level <b>10</b> The application of knowledge and understanding gained will be applied in forensic biology. Students should be able to critically evaluate the techniques and our understanding of the science important in forensic biology
Generic Cognitive skills	SCQF Level <b>10</b> Critically evaluate scientific data making judgements on the validity and interpretation of the data.

Communication, ICT and Numeracy Skills	SCQF Level <b>10</b> Use oral and written communication techniques that would be expected in employment, including a formal court report. Use of software in communication. Critically evaluate material found in databases and other sources.	
Autonomy, Accountability and Working with others	SCQF Level <b>10</b> Show a professional approach to assessing ones own learning needs and studying independently	
<b>Pre-requisites:</b>	Before undertaking this module the student should have undertaken the following:	
	<b>Module Code:</b> CHEM9009	<b>Module Title:</b> Forensic Laboratory Techniques
	<b>Other:</b>	Or suitable alternative
<b>Co-requisites</b>	<b>Module Code:</b>	<b>Module Title:</b>

\*Indicates that module descriptor is not published.

<b>Learning and Teaching</b>	
<b>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.</b>	
<b>Learning Activities</b> During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	<b>Student Learning Hours</b> (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
	Hours Total 200
<b>**Indicative Resources: (eg. Core text, journals, internet access)</b>	

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

Butler, J. (2005) Forensic DNA Typing 2nd Ed. Elsevier (MA) ISBN: 9780121479527

Naftali M., Flesh and Bone: An Introduction to Forensic Anthropology. Academic Press, ISBN:0890896380

Wonder A (2001) Blood Dynamics, Academic Press ISBN: 0127624570

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:

Attending lectures, workshops and laboratory practicals. Contributing to workshop discussions. Coming to class prepared, having reflected on the previous lesson and completed any post/pre class activities. Keep up-to-date with Aula communications.

### **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

<b>Divisional Programme Board</b>	Physical Sciences
<b>Assessment Results (Pass/Fail)</b>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<b>School Assessment Board</b>	Physical Sciences
<b>Moderator</b>	Ciaran T Ewins
<b>External Examiner</b>	I Turner
<b>Accreditation Details</b>	This is a core module in programmes Accredited and Recognised by the Chartered Society of Forensic Sciences
<b>Changes/Version Number</b>	2.13  General housekeeping to text across sections. Updated teaching hours. Removed exam from assessment and replaced with class tests.

<b>Assessment: (also refer to Assessment Outcomes Grids below)</b>
Assessment 1: Coursework 50%
Assessment 2: Class test 25%
Assessment 3: Class test 25%
(N.B. (i) <b>Assessment Outcomes Grids</b> 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 <b>indicative schedule</b> 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)**

<b>Component 1</b>							
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Learning Outcome (4)</b>	<b>Learning Outcome (5)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Coursework	✓	✓	✓		✓	50	

<b>Component 2</b>							
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Learning Outcome (4)</b>	<b>Learning Outcome (5)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Class test 1	✓				✓	25	

<b>Component 3</b>							
<b>Assessment Type (Footnote B.)</b>	<b>Learning Outcome (1)</b>	<b>Learning Outcome (2)</b>	<b>Learning Outcome (3)</b>	<b>Learning Outcome (4)</b>	<b>Learning Outcome (5)</b>	<b>Weighting (%) of Assessment Element</b>	<b>Timetabled Contact Hours</b>
Class test 2				✓		25	
<b>Combined Total for All Components</b>						<b>100%</b>	<b>XX hours</b>