

University of the West of Scotland

Module Descriptor

Session: 2024/25

Title of Module: Forensic Genetics			
Code: CHEM08017	SCQF Level: 8 (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			
The use of DNA and genetics has changed the field of forensic science. Using new technology, and understanding the information obtained from DNA is key to many investigations. This module aims to present the importance of genetics and genetic profiling in forensic science. It will build on the skills and knowledge learned in the previous academic year, and include how to collect, characterise, and store biological samples and materials. Furthermore, STR profiles, and some statistical interpretation of these, with specific focus on the analysis (such as PCR and EPG) and interpretation of results will be key to this module. Undertaking this module will develop a range of graduate attributes. Valuable experience in practical work, analysing and interpreting data will develop critical thinking skills. Basic knowledge of Genetics will be extended to include its applications and relevance to forensic work, and ambition developed by consideration of current cutting-edge developments in the field. Collaborating and working as as a group for presentation skills on current technologies as well as in laboratories will enhance communication, collaboration, and creativity.			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	Hybrid 0	Work-Based Learning
☒	☐	☐	☐	☐	☐
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:
☒	☐	☐	☐	☐	☐	Add name

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	☐	Term 2	☒	Term 3	☐

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	Show an understanding of the structure and function of DNA in the genetics
L2	Develop an understanding of the role and importance of DNA in forensic sciences
L3	Apply analytical skills to the interpretation of data from genetic tests to fulfil forensic investigations and reporting requirements.
L4	Accurately demonstrate the collection, characterisation, and preservation of DNA in a forensic context
L5	Demonstrate practical skills in performing molecular techniques relevant to genetics and recording, analysing and interpreting results
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 8 Demonstrate a broad knowledge of genetics in a forensic context.
Practice: Applied Knowledge and Understanding	SCQF Level 8 Apply the theoretical knowledge gained to perform experiments with genetic material and interpret the results.
Generic Cognitive skills	SCQF Level 8

	Use a range of approaches to formulate appropriate responses to problems in Mendelian and molecular genetics.	
Communication, ICT and Numeracy Skills	SCQF Level 8 Communicate effectively orally and in writing. Analyse and interpret data where appropriate.	
Autonomy, Accountability and Working with others	SCQF Level 8 Working in teams to perform practical work will require time management, organisational skills and awareness of professional practice.	
Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: CHEM07013	Module Title: Molecules of Life
	Other:	Or 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	28
Laboratory/Practical Demonstration/Workshop	20
Independent Study	152
	Hours Total 200
**Indicative Resources: (eg. Core text, journals, internet access)	

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

Jamieson, A., Bader S. (2016) A Guide to Forensic DNA Profiling, Chichester: Wiley

Goodwin, W., Linacre, A. Hadi S. (2011) An Introduction to Forensic Genetics, 2nd edn., Chichester: Wiley-Blackwell.

Jackson, A., Jackson, J. (2017) Forensic Science, 4th edn., Chichester: Wiley

Snustad, D.P., Simmons, M.J. (2016) Principles of Genetics, 7th edn., Chichester: Wiley.

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](#).

Please ensure any specific requirements are detailed in this section. Module Co-ordinators should consider the accessibility of their module for groups with protected characteristics..

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 ☐ No ☒
School Assessment Board	Physical Sciences
Moderator	Mohammed Yaseen
External Examiner	I Turner
Accreditation Details	This module is part of a programme Accredited by the Chartered Society of Forensic Sciences
Changes/Version Number	Summary of Module minor edits Module Delivery: From Hybrid-C to Face-to-Face. Learning Activities: Removal of 8 hours tutorial, which have been moved to the Lecture / Content Delivery. Attendance and Engagement Requirements: sentence added to clarify meaning of attendance/engagement in this module. Accreditation Details: Chartered Society of Forensic Sciences added.

Assessment: (also refer to Assessment Outcomes Grids below)

Assessment 1 – Class Tests (50%)

Assessment 2 – Laboratory, written assessments, oral presentation (50%)

(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
Class Tests	X	X		X	X	50	1

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	25	
Presentation		X	X			25	
Combined Total for All Components						100%	XX hours