Module Descriptor

Title	Bioanalysis		
Session	2025/26	**Status**	Published
Code	BIOL11001	**SCQF Level**	11
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	David Thompson		

Summary of Module

This module provides experience of analytical techniques used to analyse biological molecules, and includes the analysis and presentation of a variety of different data.

Topics covered will include:

Spectroscopic analysis; uv/vis, ir, fluorescence

Chromatography; hplc, gc-ms, lc-ms, affinity, size exclusion, mass spectrometry

Immunological techniques; ELISA

Bioassays; cytotoxicity testing, biosensors

Students will gain an understanding of the theory underpinning these topics as well as hands on practical experience. In addition, to reinforce the importance of working to quality standards, the techniques will be performed with an awareness of quality standards and the accuracy of the result obtained will be assessed.

The module will be delivered by lectures and practical work. The practical work will be set in a wider context by the use of extended laboratory reports.

This module is designed to create analytical, inquiring, knowledgeable graduates. They will be effective communicators, motivated and research-minded.

Module Delivery Method	**On-Campus[1]**	**Hybrid[2]**	**Online[3]**	**Work -Based Learning[4]**
	☒	☐	☐	

[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

				☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☐ Paisley	☐ Online / Distance Learning ☐ Other (specify)	
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	Demonstrate critical understanding of a range of analytical techniques.
L2	Show proficiency in carrying out a range of analytical techniques and assays.
L3	Demonstrate critical understanding of the ICH guidelines on method validation.
L4	
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 11** A critical understanding of the principal theories, principles and concepts of a range of analytical techniques.
Practice: Applied Knowledge and Understanding	**SCQF 11** Use a range of skills techniques and practices associated with analysing biomolecules.
Generic Cognitive skills	**SCQF 11** Apply critical analysis, evaluation and synthesis to a range of analytical techniques.
Communication, ICT and Numeracy Skills	**SCQF 11** Undertake critical evaluation of a wide range of numerical and graphical data.
Autonomy, Accountability and Working with Others	**SCQF 11** Take responsibility for own work and/or significant responsibility for work of others.

Prerequisites	**Module Code**	**Module Title**
	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.

This module covers a wide variety of theoretical, conceptual and practical areas, which require a range of knowledge and skills to be displayed and exercised. Delivery of its syllabus content therefore involves a diversity of teaching and assessment methods suitable to the learning outcomes of the module; these include formal lectures, structured tutorials (work closely integrated with the lecture material), laboratory exercises to develop practical skills and familiarisation with equipment and experimental techniques, completion and submission of written coursework making use of appropriate forms of IT and VLE, and independent study.

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	18
Tutorial / Synchronous Support Activity	18
Practice-based Learning	12
Independent Study	152
n/a	
n/a	
TOTAL	200

Indicative Resources

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

Principles and Practice of Bioanalysis, R F Venn (2008) CRC Press ISBN-10: 0849338573

A Handbook of Bioanalysis and Drug Metabolism, G. Evans (Ed) (2004) CRC Press ISBN-13: 9780-41527194

(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 university is committed to providing a supportive learning environment that actively facilitates student success. In this module, there is a high degree of student-led flexibility. You are academically engaged if you are regularly engaged with scheduled live sessions on-campus and online, including engaging with online learning activities in your own time, course-related learning resources, and with timely completion and submission of assessments. Whilst we understand that there may be times when conflicting priorities make

participation challenging, for you to gain the most from this module it is recommended that you participate in all scheduled live classes and complete your self-directed learning activities in a timely manner. It may be difficult to pass the assessment associated with this module if you are not regularly engaging with the module work and live classes. We may reach out to check how things are going and offer support if we observe that you have not been attending sessions or completing online activities

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. In line with current legislation (Equality Act, 2010) and the UWS Equality, Diversity, and Human Rights Code, our modules are accessible and inclusive, with reasonable adjustment for different needs where appropriate. Module materials comply with University guidance on inclusive learning and teaching, and specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations. Where modules require practical and/or laboratory based learning or assessment required to meet accrediting body requirements the University will make reasonable adjustment such as adjustable height benches or assistance of a 'buddy' or helper.
(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	**Biological Sciences Health**
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	Biology
Moderator	Steven Kelly
External Examiner	A Tsauosis
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	2.17

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Portfolio of Practical Work (80%)
Assessment 2
Presentation (20%)
Assessment 3

(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**
Portfolio of practical work	☐	☒	☐	☐	☐	80	12

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Presentation	☒	☐	☒	☐	☐	20	4

Component 3							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
	☐	☐	☐	☐	☐		
Combined total for all components						100%	16 hours

Change Control

What	**When**	**Who**