

Session: 2023/24

Last modified: May 24

Status: Published

Title of Module: Integrative Human Physiology			
Code: BIOL10017	SCQF Level: 10 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS: 10 (European Credit Transfer Scheme)
School:	School of Health and Life Sciences		
Module Co-ordinator:	Gary Litherland		
Summary of Module			
<p>This module extends material delivered on the nervous, cardiovascular, respiratory, renal and digestive systems at Level 8, developing these at an integrative level. Fundamental physiological principles in each of the systems are consolidated and further developed, with specific examples of integrative functions considered.</p> <p>Nervous system includes discussion of the autonomic nervous system and motor sensory pathways.</p> <p>Cardiovascular system overviews discussion of cardiac output, vascular regulation, blood pressure and capillary exchange.</p> <p>Respiratory system includes discussion of gas transfer, respiratory mechanics and lung capacities.</p> <p>Renal system outlines urine formation (glomerular filtration and tubular processing), urine concentrating mechanisms and renal control.</p> <p>Digestive system overviews the processes of ingestion, digestion, absorption and defecation and includes discussion of associated accessory structures/organs in situ.</p> <p>As appropriate, pathophysiological examples are used to consolidate fundamental physiological principles.</p> <p>Specific examples scenarios will be presented and discussed that illustrate the significance of functional integration between these systems.</p> <p>Module develops key "I am UWS" Graduate Attributes (details provided later).</p>			

Module Delivery Method					
Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
				✓	
<p>Face-To-Face Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.</p> <p>Blended A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations</p> <p>Fully Online Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.</p> <p>HybridC Online with mandatory face-to-face learning on Campus</p> <p>HybridO Online with optional face-to-face learning on Campus</p> <p>Work-based Learning Learning activities where the main location for the learning experience is in the workplace.</p>					

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)

Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
			✓			

Term(s) for Module Delivery

(Provided viable student numbers permit).

Term 1		Term 2		Term 3	
			✓		

Learning Outcomes: (maximum of 5 statements)

On successful completion of this module the student will be able to:

- L1. Describe in detail the normal structure and function of key human physiological systems (comprising the nervous, cardiovascular, respiratory, renal and digestive systems).
- L2. Explain principal control mechanisms of key human physiological systems (comprising the nervous, cardiovascular, respiratory, renal and digestive systems) and where appropriate, disturbances to this control.
- L3. Discuss in detail the integrative functions of the above systems in the context of examples such as acid-base balance, response to dynamic exercise or other relevant scenarios.
- L4. Report on aspects of key human physiological systems (comprising the nervous, cardiovascular, respiratory, renal and digestive systems) through analysis of laboratory-based results and data.

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 10. Developing general and integrated understanding of major physiological systems in humans, including fundamental concepts and specialised terminology.(Graduate Attribute-Successful-Professional-driven). Self-evaluation of information derived from experiment to determine priority value of data (Graduate Attribute-Universal-Academic-critical thinking)
Practice: Applied Knowledge and Understanding	SCQF Level 10. Trained to apply skills and techniques important in monitoring basic physiological parameters (blood pressure; respiratory gases; urinalysis). Aptitude in collecting data from human volunteers (Graduate Attribute-Universal-Personal-ethically minded). Constructing dose-response curves using standard pharmacological preparations.
Generic Cognitive skills	SCQF Level 10. Developing a working hypothesis; designing an experiment to test hypothesis (Graduate Attribute-Work Ready-Academic-problem solver); analysing data to accept / reject hypothesis. Performing routine urinalysis and interpreting the results. Investigating the cardiorespiratory response to static vs. dynamic exercise. Evaluating histology specimens to identify with supporting rationale.

Communication, ICT and Numeracy Skills	SCQF Level 10. Data analysis and tabular/graphical presentation of data for the pharmacology lab (Graduate Attribute-Successful-Academic-autonomous)and exercise miniproject assignment. IT communication with student peers as part of group cohesion in miniproject assignment(Graduate Attribute-Work Ready-Personal-effective communicator).
Autonomy, Accountability and Working with others	SCQF Level 10. Develop the ability to work productively as part of an integrated group to perform and monitor the body's responses to exercise, to analyse the resulting data and form part of a group presentation. Assume responsibility for delegated component of integrated work (Graduate Attribute-Universal-Professional-collaborative).

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: BIOL08019 BIOL08003	Module Title: Core Biomedical Science Human Biology
	Other:	
Co-requisites	Module Code:	Module Title:

* Indicates that module descriptor is not published.

Learning and Teaching	
During completion of this module, the learning activities undertaken to achieve the module learning outcomes will include formal lectures, structured tutorials, laboratory classes/simulations and independent study. VLE-based support materials will be available to support the module.	
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	26
Tutorial/Synchronous Support Activity	4
Laboratory/Practical Demonstration/Workshop	6
Independent Study	164
	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:

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Lecture notes, PowerPoint slides, audio recordings etc. accessed via VLE

Further indicative resources and relevant module information (announcements; timetable; staff contact details etc) available via module VLE site

Recommended text: Martini, F.H. (2016) Essentials of Anatomy & Physiology, 7th Edition (Pearson)

(**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)

Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)
Where a module has Professional, Statutory or Regulatory Body requirements these will be listed here:
Attendance at synchronous sessions (lectures, practical labs/virtual equivalents, tutorials).
Completion of asynchronous activities, and submission of assessments to meet the learning outcomes of the module.

Supplemental Information

Programme Board	Biological Sciences and Health
Assessment Results (Pass/Fail)	No
Subject Panel	Biology L7-11
Moderator	Robin Freeburn
External Examiner	D Stobo
Accreditation Details	This module is part of the BSc (Hons) Biomedical Science programme; accredited by Institute of Biomedical Science (IBMS). This module is part of the BSc (Hons) Applied Biomedical Science programme; accredited by Royal Society of Biology (RSB).
Changes/Version Number	2.12 Updated delivery method to Hybrid0. Assessment components updated.
Assessment: (also refer to Assessment Outcomes Grids below)	

Assignment Class test (written)
Coursework Coursework will include a laboratory report, short practical reports and a histology identification table.
(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 Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Coursework	✓	✓	✓	✓	40	0

Component 2						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Class Test (written)	✓	✓	✓	✓	60	0
Combined Total For All Components					100%	0 hours

Footnotes

- A. Referred to within Assessment Section above
 B. Identified in the Learning Outcome Section above

<p>Note(s):</p> <ol style="list-style-type: none"> 1. More than one assessment method can be used to assess individual learning outcomes. 2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note). This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity
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. Please refer to the UWS Equality and Diversity Policy at the following link: [UWS Equality and Diversity Policy](#).

[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)