



CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic data					
Module title	Biochemistry				
Module code	UINXNY-15-1	Level	1	Version	1
Owning faculty	Hartpury	Field	Animal & Land Science		
Contributes towards	BSc (Hons) Bioveterinary Science				
UWE credit rating	15	ECTS credit rating	7.5	Module type	Standard
Pre-requisites	None		Co-requisites	None	
Excluded combinations	None		Module entry requirements	None	
Valid from	01 September 2013		Valid to	01 September 2019	

CAP approval date	04 July 2013
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Part 2: Learning and teaching	
Learning outcomes	<p>On successful completion of this module students will be able to:</p> <ol style="list-style-type: none"> 1 Recognise the significance of major metabolic pathways and explain the inter-relationships and co-operativity between the metabolic pathways and their control (A). 2 Outline the major catabolic processes involved in harnessing potential energy from carbon fuels and relate this to the molecular mechanisms involved in ATP synthesis (A, B). 3 Explain the principles of enzyme catalysis and give examples of activation and inhibition (A, B). 4 Describe examples of enzyme mechanisms and understand how enzyme activity is influenced and regulated including the roles of cofactors and vitamins (A, B). 5 Describe the synthesis of macromolecular precursors and analyse their integration into metabolism (A). 6 Demonstrate laboratory skills to a high standard (B).
Syllabus outline	<ol style="list-style-type: none"> 1 Protein structure and function; 2 Generation and storage of metabolic energy; 3 Biosynthesis of macromolecular precursors; 4 Metabolic processes central to ATP synthesis; 5 Mechanisms of enzyme action; 6 Dynamics of reactions; 7 Genetic manipulation; 8 Molecular physiology.

Contact hours	<p>Indicative delivery modes:</p> <table border="0"> <tr> <td>Lectures, guided learning, seminars etc</td> <td style="text-align: right;">33</td> </tr> <tr> <td>Self directed study</td> <td style="text-align: right;">3</td> </tr> <tr> <td>Independent learning</td> <td style="text-align: right;">114</td> </tr> <tr> <td>TOTAL</td> <td style="text-align: right;">150</td> </tr> </table>	Lectures, guided learning, seminars etc	33	Self directed study	3	Independent learning	114	TOTAL	150												
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Teaching and learning methods	<p>A variety of learning strategies will be used including lectures and practicals (36 hours). Students will also be expected to engage in independent learning throughout the module (114 hours) including time to complete assessment work.</p> <p>Scheduled learning May include lectures, seminars, tutorials, demonstration, practical classes including supervised time in the laboratory</p> <p>Independent learning May include hours engaged with essential reading, case study preparation, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below. Scheduled sessions may vary slightly depending on the module choices you make.</p> <p>Virtual learning environment (VLE), or equivalent This specification is supported by a VLE where students will be able to find all necessary module information. Direct links to information sources will also be provided from within the VLE (or equivalent).</p>																				
Key information sets information	<p>Key information sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.</p> <p>Key information set – module data</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 70%;">Number of credits for this module</td> <td style="border: 1px solid black; text-align: center; width: 30%;">15</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Hours to be allocated</th> <th style="width: 25%;">Scheduled learning and teaching study hours</th> <th style="width: 20%;">Independent study hours</th> <th style="width: 20%;">Placement study hours</th> <th style="width: 20%;">Allocated hours</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">150</td> <td style="text-align: center;">36</td> <td style="text-align: center;">114</td> <td style="text-align: center;">0</td> <td style="text-align: center;">150</td> </tr> </tbody> </table> <p>The table below indicates as a percentage the total assessment of the module which constitutes a:</p> <ol style="list-style-type: none"> 1 <i>Written exam:</i> Unseen written exam, open book written exam, in-class test. 2 <i>Coursework:</i> Written assignment or essay, report, dissertation, portfolio, project. 3 <i>Practical exam:</i> Oral assessment and/or presentation, practical skills assessment, practical exam. <p>Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the assessment section of this module description:</p> <p>Total assessment of the module:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Written exam assessment percentage</td> <td style="border: 1px solid black; text-align: center;">50%</td> </tr> <tr> <td>Coursework assessment percentage</td> <td style="border: 1px solid black; text-align: center;">50%</td> </tr> <tr> <td>Practical exam assessment percentage</td> <td style="border: 1px solid black; text-align: center;">0%</td> </tr> <tr> <td></td> <td style="text-align: center;">100%</td> </tr> </table>	Number of credits for this module	15	Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated hours	150	36	114	0	150	Written exam assessment percentage	50%	Coursework assessment percentage	50%	Practical exam assessment percentage	0%		100%
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Reading strategy	<p>Essential reading Any essential reading will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given a study pack or be referred to texts that are available electronically, or in the Library. Module guides will also reflect the range of reading to be carried out.</p> <p>Further reading Further reading is advisable for this module, and students will be encouraged to explore at least one of the titles held in the library on this topic. A current list of such titles will be given in the module handbook and revised annually.</p> <p>Access and skills Formal opportunities for students to develop their library and information skills are provided within the induction period and student skills sessions. Additional support is available through online resources. This includes interactive tutorials on finding books and journals, evaluation information and referencing. Sign up workshops are also offered.</p>
Indicative reading list	<p>The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms, including the module guide.</p> <ul style="list-style-type: none"> • Berg, J., Tymoczko, J. and Stryer, L. (Current Ed.) <i>Biochemistry</i>. W.H. Freeman & Co: New York. • Burrin, D.G., Mersmann H.J. (Current Ed.) <i>Biology of metabolism in growing animals</i>. Elsevier: London. • Cammack, R. (Current Ed.) <i>Oxford dictionary of biochemistry and molecular biology</i>. Oxford University Press: Oxford. • Devlin, T.M. (Current Ed.) <i>Textbook of biochemistry with clinical correlations</i>. Wiley-Liss: New York. • Hames, D. and Hooper, N. (Current Ed.) <i>Biochemistry</i>. Taylor & Francis: Abingdon. • Voet, D., Voet, J., & Pratt, C. (Current Ed.) <i>Principles of biochemistry</i>. John Wiley & Sons: New York.

Part 3: Assessment	
Assessment strategy	<p>The assessment strategy for the module is via a mid-semester MCQ examination, an end of semester MCQ and a portfolio of laboratory reports, which will have no fixed word count.</p> <p>The MCQ examinations have been chosen to facilitate broad assessment of the knowledge and understanding gained throughout the module in a time-limited and controlled setting. By splitting the examination into two halves (one mid-semester and one end of semester), it will allow students to digest the knowledge received more easily, and to reflect upon their performance in the mid-semester exam, before embarking on the end of semester exam.</p> <p>The portfolio of laboratory reports is chosen to facilitate in depth utilisation of laboratory skills gained in practicals and relating findings/observations to material learnt in lectures and gained in additional study via analysis, evaluation and discussion. Students will select four practicals from the module, write them up separately and submit them as a portfolio at the end of the module. There is no fixed word count due to the different requirements of the practicals and the selection of the practicals to be included.</p> <p>Feedback will be provided throughout the module via tutorial support, class discussions, short exercises and review of results of practical sessions, in addition to that written on assignment submissions and examination scripts.</p>

	In line with the College's commitment to facilitating equal opportunities, a student may apply for alternative means of assessment if appropriate. Each application will be considered on an individual basis taking into account learning and assessment needs. For further information regarding this please refer to the VLE.	
Identify final assessment component and element	MCQ (end of semester).	
% weighting between components A and B (Standard modules only)	A:	B:
	50%	50%
First sit		
Component A (controlled conditions) Description of each element	Element weighting	
1 MCQ (mid-semester) (30 minutes)	50%	
2 MCQ (end of semester) (30 minutes)	50%	
Component B Description of each element	Element weighting	
1 Laboratory notebook	100%	
Resit (further attendance at taught classes is not required)		
Component A (controlled conditions) Description of each element	Element weighting	
1 MCQ (1 hour)	100%	
Component B Description of each element	Element weighting	
1 Laboratory notebook	100%	
If a student is permitted an EXCEPTIONAL RETAKE of the module the assessment will be that indicated by the module description at the time that retake commences.		