

## Biology (BL) distance learning modules

BL1801 The Global Aquaculture Industry (by Distance Learning)				
<b>SCOTCAT Credits:</b>	10	SCQF Level 7	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Availability restrictions:</b>	Available only for students on the Undergraduate Certificate in Sustainable Aquaculture			
<b>Planned timetable:</b>	To be arranged.			
The module will introduce the concept and definition of aquaculture and describe the global industry in the main production regions. The module will also consider the concept of sustainability; outlining the major environmental, social and economic factors involved. Major species produced will be defined and grouped in terms of bony fishes (teleosts), shrimp, shellfish, algae and other species. The main issues and challenges relating to the development of sustainability in aquaculture will be introduced and discussed.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 2-hour on-line lectures and 2-hour interactive on-line learning each week over 12 weeks.			
	<b>Scheduled learning:</b> 60 hours		<b>Guided independent Study:</b> 40 hours	
<b>Assessment pattern:</b>	<b>As defined by QAA:</b> Written Examinations = 60%, Practical Examinations = 0%, Coursework = 40%			
	<b>As used by St Andrews:</b> 2-hour Written Examination = 60%, Coursework = 40%			
<b>Re-assessment pattern:</b>	2-hour Written Examination = 100%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

BL2802 Fish and Invertebrate Biology (by Distance Learning)				
<b>SCOTCAT Credits:</b>	10	SCQF Level 8	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Availability restrictions:</b>	Available only to students on the Undergraduate Certificate in Sustainable Aquaculture			
<b>Planned timetable:</b>	To be arranged.			
This module will address the essential aspects of fish and invertebrate biology including anatomy, physiology and environmental requirements. Subjects studied will include anatomy and physiology of the circulatory, respiratory, nervous, digestive sensory endocrine reproductive systems and life cycle of invertebrate and vertebrate aquaculture species. These parameters will be examined in the context of biological requirements and sustainable aquaculture; production methods and technology, effect of water quality, disease, nutrition and environmental impact.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 2-hour on-line lectures and 2 hour interactive on-line learning each week over 12 weeks.			
	<b>Scheduled learning:</b> 60 hours		<b>Guided independent Study:</b> 40 hours	
<b>Assessment pattern:</b>	<b>As defined by QAA:</b> Written Examinations = 60%, Practical Examinations = 0%, Coursework = 40%			
	<b>As used by St Andrews:</b> 2-hour Written Examination = 60%, Coursework = 40%			
<b>Re-assessment pattern:</b>	2-hour Written Examination = 100%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

Distance learning - 1000 & 2000 Level - 2018/9 - June - 2018

BL2803 Aquaculture - Products and Markets (by Distance Learning)			
SCOTCAT Credits:	10	SCQF Level 8	Semester Both
Academic year:	2018/9		
Availability restrictions:	Available only to students on the Undergraduate Certificate in Sustainable Aquaculture		
Planned timetable:	To be arranged.		
<p>This module provides an understanding of the diversity of species, value of markets and global trade of aquaculture products. The module will review the range of products for finfish and invertebrates. In particular the importance of value added and niche products will be examined in a variety of aquaculture products. The module will examine critically the different markets for aquaculture products; for example a comparison of subsistence farming in Malawi for local consumption with production of high value marine species for export in Brazil. For major aquaculture species such as salmon and shrimp the effects of the main market pressures on sustainable production such as use of medicines, food safety, quality and traceability will be discussed.</p>			
Learning and teaching methods of delivery:	Weekly contact: 2-hour on-line lectures and 2-hour interactive on-line learning each week over 10 weeks.		
	Scheduled learning: 60 hours	Guided independent Study: 40 hours	
Assessment pattern:	As defined by QAA: Written Examinations = 0%, Practical Examinations = 0%, Coursework = 0%		
	As used by St Andrews: 2-hour Written Examination = 60%, Coursework = 40%		
Re-assessment pattern:	2-hour Written Examination = 100%		
Module coordinator:	Dr N Hazon		
Module teaching staff:	Dr J A David		