

**Sustainable Aquaculture Postgraduate Certificates  
Invertebrates or Vertebrates**

**Programme Requirements:**

<b>Sustainable Aquaculture (Invertebrates) - PG Cert</b>
BL4801 (10 credits) and BL4803 (10 credits) and BL5806 (10 credits) and BL5808 (10 credits) <b>and</b> 20 credits from Module List: BL5802, BL5804 - BL5805

<b>Sustainable Aquaculture (Vertebrates) - PG Cert</b>
BL4801 (10 credits) and BL4804 (10 credits) and BL5807 (10 credits) and BL5809 (10 credits) <b>and</b> 20 credits from Module List: BL5802, BL5804 - BL5805

**Compulsory modules:**

<b>BL4801 Aquaculture and Fisheries</b>				
<b>SCOTCAT Credits:</b>	10	SCQF Level 10	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Availability restrictions:</b>	Not available to undergraduate students			
<b>Planned timetable:</b>	To be arranged.			
This module provides an introduction to the global importance of aquaculture with fisheries industries worldwide. The module will compare both aquaculture and fishing industries with terrestrial, agricultural sources of food production. The global markets for aquaculture, fisheries and agricultural products will be assessed. The environmental interactions of aquaculture will be discussed with relation to the definition of, and development of, sustainable aquaculture practices. The principles of developing sustainable aquaculture in different global environments/conditions will be discussed.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> Distance Learning : 4 hours of lectures (x 5 weeks) and 3 hours of tutorials ( x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Re-assessment pattern:</b>	3-hour Written Examination = 100% TBC			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**BL4803 Biology for Aquaculture - Invertebrates**

<b>SCOTCAT Credits:</b>	10	SCQF Level 10	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Availability restrictions:</b>	Not available to Undergraduate students			
<b>Planned timetable:</b>	To be arranged.			
This module provides an understanding of the fundamental biology of invertebrate aquaculture species. This includes the anatomy and physiology of appropriate aquaculture species. The interaction of aquaculture species with the aquatic environment and the requirements for developing sustainable aquaculture will be assessed.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL4802			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Re-assessment pattern:</b>	3-hour Written Examination = 100%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**BL4804 Biology for Aquaculture - Vertebrates**

<b>SCOTCAT Credits:</b>	10	SCQF Level 10	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Availability restrictions:</b>	Not available to undergraduate students			
<b>Planned timetable:</b>	To be arranged.			
This module provides an understanding of the fundamental biology of vertebrate aquaculture species. This includes the anatomy and physiology of appropriate aquaculture species. The interaction of aquaculture species with the aquatic environment and the requirements for developing sustainable aquaculture will be assessed.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL4802			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks), and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Re-assessment pattern:</b>	3-hour Written Examination = 100% TBC			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**BL5806 Nutrition - Invertebrates**

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	1
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of the anatomy, physiology and nutritional requirements of key invertebrate species and a critical assessment of the sustainability of feed production technology. It will also assess and discuss the relationship between clinical nutrition and animal health and the importance of nutrition in developing optimal animal welfare.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL5801			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

## Biology - Sustainable Aquaculture - PG Certificates - 2018/9 - June 2018

### BL5807 Nutrition - Vertebrates

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of the anatomy, physiology and nutritional requirements of key vertebrate species and a critical assessment of the sustainability of feed production technology. It will also assess and discuss the relationship between clinical nutrition and animal health and the importance of nutrition in developing optimal animal welfare.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL5801			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

### BL5808 Health and Disease - Invertebrates

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	1
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of the factors that influence disease processes in cultured invertebrate species including viral, bacterial, parasitic and non-infectious disease. The wide range of specific causes of disease and pathology in farmed species will be discussed and the importance of operations and management on the development and impact of disease in optimising welfare and developing sustainable and ethical aquaculture practices will be assessed critically.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL5803			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

### BL5809 Health and Disease - Vertebrates

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	1
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of the factors that influence disease processes in cultured fish species including viral, bacterial, parasitic and non-infectious disease. The wide range of specific causes of disease and pathology in farmed species will be discussed and the importance of operations and management on the development and impact of disease in optimising fish welfare and developing sustainable and ethical aquaculture practices will be assessed critically.				
<b>Anti-requisite(s)</b>	You cannot take this module if you take BL5803 or take BL5808			
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 60%, Coursework = 40%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**Optional modules:**

**BL5802 Management, Husbandry and Sustainability**

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	1
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of production management and business management of modern aquaculture practices. Environmental, social and economic sustainability of aquaculture depends on an understanding of the interactions of differing but complementary management structures.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 40%, Coursework = 60%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**BL5804 Markets, Products, Processing and Food Safety**

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	1
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of aquaculture markets, products, processing and food safety. Understanding the processes of ensuring the safety and quality of aquaculture products is central to establishing efficient and sustainable aquaculture practices.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 40%, Coursework = 60%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			

**BL5805 Local and Global Impacts of Aquaculture**

<b>SCOTCAT Credits:</b>	10	SCQF Level 11	<b>Semester</b>	Both
<b>Academic year:</b>	2018/9			
<b>Planned timetable:</b>	To be arranged.			
This module provides advanced knowledge of the environmental impact of aquaculture practices on both local and global scales. Understanding the environmental impact of aquaculture practices is central to improving and developing sustainable aquaculture.				
<b>Learning and teaching methods of delivery:</b>	<b>Weekly contact:</b> 4 hours of lectures (x 5 weeks) and 3 hours of tutorials (x 3 weeks).			
<b>Assessment pattern:</b>	2-hour Written Examination = 40%, Coursework = 60%			
<b>Module coordinator:</b>	Dr N Hazon			
<b>Module teaching staff:</b>	Dr J A David			