AGRICULTURE & MARINE BIOLOGY

STUDY ABROAD MODULE OPTIONS

LEVEL 2	
SEMESTER 1: FALL	**SEMESTER 2 : SPRING**
	BIO2206 Coastal and Oceanic Biology (20 CATS)
LEVEL 3	
SEMESTER 1: FALL	**SEMESTER 2 : SPRING**
BIO3106 Farm Animal Health and Welfare (20 CATS)	BIO3208 Advances in Crop and Animal Science and Technology (20 CATS)
BIO3102 Future Oceans (20 CATS)	BIO3207 Global Issues in Agriculture (20 CATS)

MODULE OVERVIEWS

BIO2206 Coastal and Oceanic Biology
The module has three main themes: oceanic biology, coastal ecology and applied marine biology and it provides a fundamental introduction to marine environments including the species and processes found there. The module takes a holistic view of marine systems by first exploring the oceans themselves and how they shape the global climate and patterns of productivity (from plankton to migratory megafauna). The second half of the course focusses on the key ecological processes (e.g. competition, predator-prey interactions) that underpin the functioning of some of the world's most biodiverse ecosystems; ranging from deep hydrothermal vents to coral reefs. The module include a residential field-trip including time at sea on the departmental research vessel, and visits to four unique coastal habitats (five days overall at Queen's Marine Laboratory).

Please note: modules may require demonstration of prior learning. Modules may be subject to change.

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BIO3106 Farm Animal Health and Welfare
This module is designed to provide an overview of topical areas of concern in relation to farm animal health and welfare. This will include outlining key diseases and animal welfare problems within the intensive and extensive agricultural sectors. In addition, fundamental information on the concept of animal welfare, on animal suffering, and on animal health issues such as immunity, disease transmission and biosecurity will be provided. The aim is also to provide an overview of relevant regulatory procedures, and of the role of research in improving farm animal health and welfare. The module will consist of a series of lectures and a visit to a research site. In addition, students will be required to prepare seminar presentations on areas related to animal health and welfare. A student completing this module should have a good understanding of the basis of various disease syndromes and welfare problems in farm animals, and be familiar with management practices for the control of such issues. Students should also have a knowledge and understanding of fundamental issues relating to animal health and welfare. Students should be able to critically assess the role of research in improving farm animal health and welfare.

BIO3208 Advances in Crop and Animal Science and Technology
This module will investigate recent developments in science and technology of benefit to those subject areas covered within the Agricultural Technology degree programme. These include recent developments in animal nutrition and production science, in plant biotechnology and in environmental sustainability. By the end of the module students will be able to demonstrate knowledge and understanding of recent scientific and technological advances relevant to their course, how these may be applied and what the consequences of application may be. Students will also be able to evaluate these recent advances in relation to their benefits and drawbacks.

BIO3207 Global Issues in Agriculture
This module investigates issues affecting agriculture at an international level. These include issues such as food safety, global population growth and food security, and climate change. In addition, mechanisms of policy formation and impacts of recent policy changes (such as decoupling of EU agricultural support) will be discussed. Possible future changes in agriculture related to issues such as obesity, or to increasing competition from aquaculture enterprises, will also be addressed.
On completion students will be able to demonstrate a knowledge and understanding of key issues affecting agriculture on a global scale. In particular, students will gain a greater understanding of likely future changes to conventional systems of agriculture. Critical assessment of the range of information available and synthesise info into a comprehensive discussion.

BIO3102 - Future Oceans
At the present time, the position of marine biology graduates has never been as critical to the functioning of our society, economy and environment. To highlight this point, the UK exclusive economic zone stretches over 6,805,585 km2 (over fourteen times the terrestrial landmass). Within this vast area lies the Blue Economy: oil, gas, fish, minerals and rare earth metals. To exploit these resources in a sustainable and reasonable manner requires multidisciplinary skilled marine biologists. This module will prepare students for a future in environmental impact assessment, fisheries management and marine conservation. The Future Oceans module is based on a research led teaching format and incorporates a large applied angle. Students will be experience applied marine biology in scenarios as diverse as deep-sea hydrothermal vents, satellite tagging sea turtles to the state of Northern Ireland's fisheries. This will ensure that our graduates are best placed to move directly into either the industrial or academic fields.