

1st Half Year Modules (September 2019 to January 2020)							
Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
ANIM20232	Nutritional Biochemistry	BSc (H) Animal Biology	Anne Carter Email: anne.carter@ntu.ac.uk	2	20 (10 ECTS)	100% Presentation	Discover the principles of nutrient metabolism, reviewing the importance of enzymes.
ANIM22136	Zoo Conservation & Education	BSc(H) Zoo Biology	Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Assignment	Develop understanding and knowledge of the role of zoos in conservation and education as key deliverables of modern zoos as set out by the World Association of Zoos and Aquaria (2015).
ANIM22104	Biological Basis of Behaviour	BSc (H) Animal Biology BSc (H) Zoo Biology	Anne Carter Email: anne.carter@ntu.ac.uk Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	Advance your knowledge and understanding of key areas of mammalian physiology, including cardiovascular, respiratory and excretory physiology and pharmacology.
ANIM20262	Zoo Nutrition	BSc (H) Zoo Biology	Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Assignment	Aims to address issues facing the feeding of captive animal populations, specifically restrictions placed on diet provision in captivity.
ANIM22116	Professional Skills for Animal Biologists	BSc(H) Animal Biology	Anne Carter Email: anne.carter@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	Will enable students to understand a range of field-based skills of relevance to the animal industry and captive animal management
2nd Half Year Modules (January 2020 to June 2020)							
Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
ANIM20251	Management of Reproduction in Zoo Animals	BSc (H) Zoo Biology	Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	Will provide you with an overall understanding of genetics, reproduction and breeding. You will also look at the factors influencing reproductive success in captive and endangered species. You will examine how these can be addressed through knowledge of reproductive physiology and anatomy.
ANIM22109	Animal Reproduction & Breeding	BSc (H) Animal Biology	Anne Carter Email: anne.carter@ntu.ac.uk	2	20 (10 ECTS)	100% Assignment	Examine reproductive physiology, the principles of inheritance and the application of these principles in animal breeding programmes.
ANIM22102	Research Skills	BSc (H) Animal Biology BSc (H) Zoo Biology	Anne Carter Email: anne.carter@ntu.ac.uk Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Assignment	Explore the principles of scientific investigation in relation to Animal Science. Topics covered include experimental design, data generation and collection, and data analysis, with teaching supported in the laboratories and Animal Unit.
ANIM22110	Animal Health & Disease	BSc (H) Animal Biology BSc (H) Zoo Biology	Anne Carter Email: anne.carter@ntu.ac.uk Samantha Ward Email: samantha.ward@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	Learn about the principles of animal health and disease. The module covers a range of pathogenic organisms and looks at a variety of common diseases.

Note: The above modules are optional, taught in English and may be subject to change

All applications for exchange are subject to satisfactory academic transcripts

School of Animal, Rural & Environmental Sciences

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Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
EQUE20337	Equine Health and Nutrition	BSc (H) Equine Sports Science BSc (H) Equine Behaviour, Health & Welfare	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	The module aims to enable students to evaluate a range of health disorders and problems of the horse and determine relevant treatment regimes. In addition, this module aims to expand the understanding of nutritional science and practical feeding and the relationship between nutrition and disease problems in the horse.
EQUE20314	Equine and Human Sports Science	BSc (H) Equine Sports Science BSc (H) Equine Behaviour, Health & Welfare	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module will provide you with knowledge of the structure and function of the equine and human athlete. You will come to appreciate the inter-relationship between the different systems and appreciate the demands of equestrian sports on horse and rider.
EQUE20315	Equine Learning and Cognition	BSc (H) Equine Behaviour, Health & Welfare	Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module reviews the study of animal cognition and relates the findings to equine cognitive ability. You will discuss the various approaches to the study of learning and related theories in reference to their application in horse management and training; discuss the biological basis of learning; review the neural adaptations that occur in relation to different types of learning and memory.
EQUE20347	Equine Reproduction and Stud Management	BSc (H) Equine Sports Science	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module covers the anatomical and physiological basis of equine reproduction, making comparisons with other species, and evaluates the practical and physiological basis of horse breeding and breeding stock management.

2nd Half Year Modules (January 2020 to June 2020)

Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
EQUE20316	Sports Injury	BSc (H) Equine Sports Science BSc (H) Equine Behaviour, Health & Welfare	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module examines the common injuries affecting sports horses. It also examines the implications for health and welfare. The scientific background provided in this module complements the Equine and Human Sport Science module. You will also develop a detailed knowledge of the athlete.
EQUE20319	Research Methods for Behavioural Sciences	BSc (H) Equine Behaviour, Health & Welfare	Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module will provide you with an appreciation of research principles, experimental design and statistical analysis. You will carry out small scale research projects to encourage learning through practical application of theoretical principles. This module will serve as a sound basis for your dissertation in your third year of the course.
EQUE20320	Research Methods and Experimental Design	BSc (H) Equine Sports Science	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module will enable you to develop an appreciation of scientific research principles; planning experiments and projects; gathering and evaluating data. You are involved in planning and carrying out a small scale research project to encourage learning through practical application of theoretical principles.
EQUE20367	Equine Disease and Diagnostics	BSc (H) Equine Sports Science	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module aims to develop an understanding of equine disease in a regional and global context and to develop practical competencies in laboratory procedures and others used in the equine industry and veterinary science.
EQUE20312	Therapeutic Use of the Horse	BSc (H) Equine Behaviour, Health & Welfare	Sarah Hallam Email: sarah.hallam@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	You will explore the different ways in which animals are utilised in human therapy. The module investigates the way horses are used therapeutically both nationally and internationally.
EQUE20357	Sport Horse Breeding and Genetics	BSc (H) Equine Sports Science	Lauren Birkbeck Email: lauren.birkbeck@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module covers the use of veterinary management processes, assisted reproductive technologies and molecular tools to support and inform the breeding of horses for sport.

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Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
CCMT20121	Applied Habitat Management	BSc (H) Wildlife Conservation BSc (H) Ecology and Conservation	Louise Gentle Email: louise.gentle@ntu.ac.uk Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module is delivered as a series of site-based habitat and species evaluations on and off-campus. These include: surveys and assessments; data analysis; discussion workshops; seminars and lectures.
CCMT20201	Experimental Design and Analysis	BSc (H) Wildlife Conservation BSc (H) Environmental Science BSc (H) Ecology and Conservation BSc (H) Food Science & Technology	Louise Gentle Email: louise.gentle@ntu.ac.uk Sally Little Email: sally.little@ntu.ac.uk Adam Bates Email: adam.bates@ntu.ac.uk Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module will prepare you for your final-year research project. You will develop an understanding of: research methodology; hypothesis testing; statistical analysis; data presentation.
CCMT20301	Environmental Law and Policy	BSc (H) Environmental Science BSc (H) Geography BSc (H) Ecology and Conservation	Sally Little Email: sally.little@ntu.ac.uk Andrew Telford Email: andrew.telford@ntu.ac.uk Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module will introduce you to the legal and institutional framework within the environmental sector. You will investigate the development, implementation and impact of environmental policies and laws at a national and international level.
CCMT20334	Living with Environmental Change	BSc (H) Ecology and Conservation	Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module aims to: <ul style="list-style-type: none"> • Explore the ecological issues associated with environmental change. • Consider perceptions and responses to environmental change at a number of scales - from individual and community to state – in the context of sustainable development. • Introduce methods used to predict future environmental conditions and enable students to make evaluations of various predictions.
CCMT20412	Environmental Monitoring and Geographical Information Systems (GIS)	BSc (H) Environmental Science	Sally Little Email: sally.little@ntu.ac.uk	2	20 (10 ECTS)	100% Portfolio	This course will help you to understand the methods and processes involved in the long-term monitoring of air and water quality through the use of case studies. It introduces students to mapping and spatial analytical techniques used in geographical information systems (GIS) and remote sensing. You will develop skills through practical tasks using GIS software such as MapInfo and GPS (Global Positioning System) data.
CCMT20514	Wildlife Law and Policy	BSc (H) Wildlife Conservation	Louise Gentle Email: louise.gentle@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module will introduce you to the broad range of legal and policy issues that affect those engaged in protecting the environment and wildlife conservation.
CCMT20600	Microbiology of Food Processing	BSc (H) Food Science & Technology	Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module aims to provide students with knowledge and understanding of the microbiology of food processing, develop the students laboratory analytical skills and develop the students ability to understand and evaluate the production of safe food.
CCMT20603	Consumer Nutrition and Health	BSc (H) Food Science & Technology	Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module aims to provide students with knowledge and understanding of human nutrition, develop the student's ability to analyse foods for macronutrients associated with nutrition and allergens and provide students with knowledge and understanding of how consumer nutrition needs and trends affect product development, processing, and packaging.

2nd Half Year Modules
(January 2020 to June 2020)

Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
CCMT20122	Behavioural and Evolutionary Ecology	BSc (H) Wildlife Conservation	Louise Gentle Email: louise.gentle@ntu.ac.uk	2	20 (10 ECTS)	100% Class Test	This module explores the way in which animals behave in relation to their environment and covers topics such as: the selfish gene; optimal foraging; game theory; sexual selection. The module is taught as a series of lectures and practical exercises.
CCMT20291	Technical Skills for Environmental Scientists	BSc (H) Environmental Science	Sally Little Email: sally.little@ntu.ac.uk	2	20 (10 ECTS)	100% Field Report	The primary objective of this module will be to provide the students with a grounding in the principles, methods and applications of modern analytical laboratory and field techniques. The module aims are: To develop an understanding of the principles of the major methods used in the chemical analyses of environmental samples. To develop an understanding of the applicability and limitations of these methods to different types of samples and analytes. To design and undertake surveys of wildlife habitats, rural resources and use research methods in a range of applications. To develop research problems that have scope and viability. To use scientific and innovative approaches to solve problems and exercise judgements, and be receptive to alternative scientific viewpoints; handle and interpret data, analyse and evaluate the evidence; undertake preliminary investigative field research. To demonstrate a range of key transferable skills such as the ability to express themselves with confidence, both orally and in writing; good visual presentational skills; good analytical and problem-solving skills. To demonstrate the capacity for independent critical thought, rational inquiry and self-directed learning. A significant amount of contact hours for this module relate to a fieldtrip to south east Spain, for one week residential field work (contact time 40 hours of 52 in the module).
CCMT20332	Ecotourism and Recreation	BSc (H) Ecology and Conservation	Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module will provide students with an understanding of the importance and value of recreational provision but will explore the challenges that this presents to managers of open green space in terms of providing an accessible and stimulating recreational environment alongside other land use priorities such as habitat and wildlife protection.
CCMT20333	Land Use Ecology	BSc (H) Ecology and Conservation	Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Assignment	The aim of this module is to explore those land uses such as farming and forestry whose productivity is determined by the presence and products of ecological processes, how these processes can define those land uses and the impacts of human manipulation upon them with a view, especially, to increasing student employability.
CCMT20335	Field Techniques and GIS	BSc (H) Ecology and Conservation	Adam Bates Email: adam.bates@ntu.ac.uk	2	20 (10 ECTS)	100% Portfolio	This module provides you with an understanding of the processes involved in assessing the status of the natural environment using field techniques, data acquisition and processing, particularly through Geographic Information Systems (GIS), and prepares you to write a report based on your surveys of species or habitats. There will be a field trip to Somiedo, in northern Spain, for one week in April/May. The field trip comprises an assessed part of the module and attendance is required.
CCMT20422	Wildlife Population Biology	BSc (H) Wildlife Conservation	Louise Gentle Email: louise.gentle@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module aims to provide you with an understanding of wildlife populations and the factors that affect them. You will gain an understanding of what affects the growth of populations, what limits population size and what impact predators and other competing species have. We will also investigate disease dynamics, population genetics and captive breeding programmes. We will use case studies and discussions throughout to help you understand how these topics apply to real world situations.

CCMT20523	Wildlife Field Techniques and Geographical Information Systems (GIS)	BSc (H) Wildlife Conservation	Louise Gentle Email: louise.gentle@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module provides students with an understanding of the processes involved in assessing the status of wildlife using field techniques, data acquisition and processing, particularly through Geographic Information Systems (GIS). This module is delivered via a series of lecture and a week-long field trip to Spain.
CCMT20601	Sustainable Food Production	BSc Food Science & Technology	Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module aims to provide students with the opportunity to gain knowledge and develop an understanding of the challenges, problems and benefits related to the sustainability of food production and food supply chains. Identify and evaluate methods by which the environmental impact of the food industry can be minimised and/or mitigated
CCMT20602	Food Technology	BSc Food Science & Technology	Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module aims to enhance the student's knowledge and understanding of the unit food processing operations in use in the food industry, develop the student's ability to select and operate a variety of food processing equipment and also provide students with knowledge and understanding of food processing efficiencies
CCMT20604	Food Industry Employability	BSc Food Science & Technology	Sara Poulson Email: sara.poulson@ntu.ac.uk	2	20 (10 ECTS)	100% Portfolio	This module aims to enable development of soft, corporate, transferable and subject skills in the work environment. To evidence participation in a period of work placement to obtain an informed view of the work environment and demonstrate applied knowledge and skills. To develop the individual's awareness of personal and professional development. To develop a portfolio of evidence and professional social media profile for the purpose of raising the individual's employability profile and to develop and evidence the individual's continued professional development profile through meaningful activity.

The above modules are optional and may be subject to change

NB: Some modules involve residential fieldwork so there will be additional costs/travel. During the period of your exchange you will be charged a maximum of £60 for residential trips in the UK and a maximum of £300 (subject to exchange rates) for overseas residential fieldwork which will cover travel, accommodation and entrance fees where applicable. Non-residential day excursions will not involve additional costs. A valid passport and any associated visas will also be required for field trips outside of the UK.

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Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
GEOG20011	Geographical Information Systems and Spatial Analysis	BSc (H) Geography BSc (H) Geography (Physical) BSc (H) Environmental Science	Andrew Telford Email: andrew.telford@ntu.ac.uk Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk Sally Little Email: sally.little@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module introduces you to the mapping and analytical techniques used in Geographical Information Systems (GIS). Applications of the technology across a wide range of topic areas will be explored.
GEOG20041	Principles and Practice in Geography	BSc (H) Geography BSc Geography (Physical)	Andrew Telford Email: andrew.telford@ntu.ac.uk Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module will familiarise you with a range of research methods. You will also gain the skills needed to select and research a topic of your choice in Geography for the dissertation in Year Three.
GEOG20051	Environmental Hazards and Disasters	BSc (H) Geography BSc Geography (Physical)	Andrew Telford Email: andrew.telford@ntu.ac.uk Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	You will study natural and human-induced events which may directly threaten human life and economic well-being. You will assess the actions needed to: reduce disaster potential manage the aftermath of hazards, including an examination of the role geospatial technology can play in hazard management.
2nd Half Year Modules (January 2020 to June 2020)							
Module Codes	Module Title	Course	Academic contact/Email	Level	Number of NTU credits	Assessments	Module Content
GEOG20032	Living with Climate Change	BSc (H) Geography BSc (H) Geography (Physical) BSc (H) Environmental Science	Andrew Telford Email: andrew.telford@ntu.ac.uk Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk Sally Little Email: sally.little@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module aims to: <ul style="list-style-type: none"> Place debate about the nature and scale of recent changes in climate in the context of longer term historical change. Introduce you to methods used to predict future climates at a global scale and enable students to make evaluations of various predictions. Consider perceptions and responses to climate change at a number of scales- from individual and community to state and differences across geographical regions. Outline the political economic and equity issues associated with responding to climate change.
GEOG20092	Quaternary Environments Fieldwork	BSc Geography (Physical)	Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	This module focuses on aspects of climatic and environmental change that have taken place during parts of the Quaternary Period, which is the last c. 2.6 million years of Earth's recent history. A range of evidence will be assessed including: sedimentological and geomorphological evidence whilst participating on the 1 week field course in north Wales. The field course is the majority of the module contact hours. This module includes residential fieldwork.
GEOG20071	Fluvial Geomorphology and River Management	BSc (H) Geography BSc Geography (Physical)	Andrew Telford Email: andrew.telford@ntu.ac.uk Nicholas Midgley Email: nicholas.midgley@ntu.ac.uk	2	20 (10 ECTS)	100% Exam	This module introduces the physical basis of landform development in fluvial environments. It will examine the role of rivers and lakes in the transport and storage of water and sediment. Students undertake surveys and monitoring of fluvial systems.
GEOG20091	Sustainability	BSc (H) Geography BSc (H) Environmental Science	Andrew Telford Email: andrew.telford@ntu.ac.uk Sally Little Email: sally.little@ntu.ac.uk	2	20 (10 ECTS)	100% Report	This module aims to: <ul style="list-style-type: none"> explore the historical development of the concept of sustainability examine debates about how to achieve sustainable development investigate obstacles to sustainability and possible ways to overcome them
GEOG20093	Cities and Development in the 21st Century	BSc (H) Geography	Andrew Telford Email: andrew.telford@ntu.ac.uk	2	20 (10 ECTS)	100% Coursework	The module aims: <ul style="list-style-type: none"> To provide both a theoretical and substantive understanding of key aspects of the contemporary urban geography To illustrate, using relevant examples, the impact of economic, social and political structures and processes on urban development and urban space To illustrate, using relevant examples, the interplay between global, national and local processes in shaping urban development and the urban experience; To provide students via the use of international field work the opportunity to engage with and study at first hand the interplay between people, places and conflict in urban contexts. This module includes residential fieldwork.

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