



Course Handbook
BSc (Hons) Biology
2020/21
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School of Pharmacy and Biomedical Sciences



Please read this Handbook in conjunction with the University's Student Handbook.

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1. Welcome to the course

Welcome to the B.Sc. (Hons) Biology Degree Programme. The course team wish you every success and is committed to making your time of study a happy and rewarding experience.

The primary purpose of this handbook is to provide sufficient basic information to allow you to safely negotiate the rules and regulations governing the B.Sc. (Hons) Biology Degree Programme.

The course structure and outlines of the modules are provided in brief and you will be given more information on these at a later date. Progression is also covered in the handbook but will be dealt with in more detail at a later date.

We have tried to draw together a range of important information, in an attempt to:-

- provide an outline of the course, including its aims, syllabus and assessment pattern
- explain student support and course monitoring arrangements

Additional information, specific to individual modules will be provided by module tutors.

BSc Biology at UCLan is a course that has been designed to develop not only the student's knowledge of the different aspects of Biology, but also how this is applied in the working of a modern biologist. To achieve this the course has been developed with input from professionals within the field to generate a case study-based course with high practical content to create an ideal learning environment for today's student.

1.1 Rationale, aims and learning outcomes of the course

Aims of the Course

All university courses have overall aims and learning outcomes which describe what you will achieve on your course of study.

It is important that both you and your teaching team are clear about what you are striving to achieve over the next two years of your studies, and so we have listed our aims here.

The aims of the Degree in Biology are to:

- enthuse and motivate students and develop their understanding of biology in a way that encourages originality of thought and breadth of vision.
- instil an understanding of the study of biology and its importance and application in different contexts.
- develop a knowledge and understanding of biology, based on a scientific foundation, with the ability to apply knowledge and analyse and evaluate information.

- involve the learner in a supportive and stimulating learning environment in which students are encouraged to achieve personal growth in terms of a wide range of skills including communication, numeracy, IT, independence, interpersonal and group-working skills.
- provide experience of current analytical techniques and practical skills relevant to biology and appropriate for employment.
- prepare the learner for a career in biology or in positions requiring knowledge of biology

What are the Learning Outcomes of the Course?

At the end of your studies it is intended that you will have knowledge and understanding to:

- evaluate the fundamental concepts, principles, theories and current developments in modern Biology, including study of the interrelationships of living organisms and the importance of natural selection and evolutionary processes and the philosophical and ethical issues involved
- use various analytical techniques and apply them to different fields of biology
- apply theory/knowledge to new situations, including the formulation of a hypothesis, the design of experiments and the appropriate use of statistical analysis to enable a valid interpretation of experimental results

At the end of your studies it is intended that you will have the following subject specific skills and be able to:

- employ a variety of methods to study in investigating, recording and analysing material
- make use of appropriate laboratory equipment to enable a biological study to be undertaken
- discuss the safety aspects to be considered when undertaking laboratory-based investigations and to work safely within a laboratory environment
- analyse a range of data derived experimentally or sourced from the literature or databases and present them in the most appropriate format and interpret the findings from such data
- explain the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment
- read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application

At the end of your studies it is intended that you will have the following thinking skills and be able to:

- Acquire, interpret and analyse biological information with a critical understanding of the appropriate contexts for their use through the study of texts, original papers, reports and datasets.
- Define and develop strategies for solving problems.

- Analyse a range of data derived experimentally, or from the literature or databases, and evaluate it critically with the support of a logical and structured argument.

At the end of your studies it is intended that you will have developed the following transferable skills relevant to employability and personal development and be able to:

- write using an appropriate scientific style
- work as a useful contributor to a group or independently
- use IT effectively for information retrieval, analysis, communication and presentations
- communicate appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language
- develop the skills necessary for self-managed and lifelong learning to include working independently, time management, organisational, enterprise and knowledge transfer skills

1.2 Course Team

Who's Who on the Biology Course

School of Pharmacy and Biomedical Sciences

| | |
|----------------------------|---|
| Barbara Tigar | BSc, MSc, DIC, PhD, PGCert, FHEA, FRES Senior Lecturer (Environmental Biology and Ecology) Course Leader e-mail: btigar@uclan.ac.uk Ext 3497 Room DB326 |
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| Victorio Bambini-Junior | BSc, PhD Lecturer (Biosciences) e-mail: vbambini-junior@uclan.ac.uk Ext 6483 Room MB241 |
| Elaine Court | BSc, PhD Principal Lecturer (Student Experience) e-mail: encourt@uclan.ac.uk Ext 3591 Room MB135 |
| Donna Daly | BSc, PhD Senior Lecturer (Physiology and Pharmacology) e-mail: ddaly3@uclan.ac.uk Ext 6480 Room MB024 |
| David Griffiths | BSc, MSc Senior Lecturer (Cellular Pathology) e-mail: dmgriffiths2@uclan.ac.uk Ext 5830 Room MB146 |
| Clare Lawrence | BSc, PhD Principal Lecturer (Biosciences) e-mail: clawrence@uclan.ac.uk Ext 5809 Room MB064 |
| Adrian O'Hara | BSc, PhD Lecturer (Physiology and Pharmacology) e-mail: ao-hara2@uclan.ac.uk Ext 5816 Room MB241 |
| Chris Smith | BSc, PhD Lecturer (Pharmacology) e-mail: cqssmith@uclan.ac.uk Ext 5845 Room MB139 |
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School of Natural Sciences

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1.3 Expertise of staff

The academic staff that will be teaching you are all highly qualified and specialists in the areas that they teach. All staff are engaged in research and/or scholarly activity which helps enrich your experiences with cutting-edge knowledge.

1.4 Academic Advisor

You will be assigned an Academic Advisor who will provide additional academic advice and support during the year. They will be the first point of call for many of the questions that you might have during the year. Your Academic Advisor will be able to help you with personal development, providing insight and direction to enable you to realise your potential.



1.5 Administration details

Campus Admin Services provides academic administration support for students and staff and are located in the following hubs which open from 8.45am until 5.15pm Monday to Thursday and until 4.00pm on Fridays. The hub can provide general assistance and advice regarding specific processes such as extenuating circumstances, extensions and appeals.

Foster Building

Pharmacy and Biomedical Sciences
Forensic and Applied Social Sciences
Psychology
Physical Sciences
telephone:
email: fosterhub@uclan.ac.uk

1.6 Communication



The University expects you to use your UCLan email address and check regularly for messages from staff. If you send us email messages from other addresses they risk being filtered out as potential spam and discarded unread.

The School of Pharmacy and Biomedical Sciences will try to respond to e-mails within two working day. We may also correspond with you by post, so it is essential you ensure your address is always up-to-date.

1.7 External Examiner

The University has appointed an External Examiner to your course who helps to ensure that the standards of your course are comparable to those provided at other higher education institutions in the UK. The name of this person, their position and home institution can be found below. If you wish to make contact with your External Examiner, you should do this through your Course Leader and not directly. External Examiner reports will be made available to you electronically. The School will also send a sample of student coursework to the external examiner(s) for external moderation purposes, once it has been marked and internally moderated by the course tutors. The sample will include work awarded the highest and lowest marks and awarded marks in the middle range.

The external examiner for this course is Dr [Karen Bacon, Lecturer in Plant Ecology, School of Natural Sciences, National University of Ireland.](#)



2. Structure of the course

2.1 Overall structure

How the course is put together

Your degree is composed of modules, which can be full modules with a weighting of 1.0, half modules (weighting 0.5), or double modules (weighting 2.0). Typically, degree programmes consist of a mixture of half, full and (more rarely) double modules. To achieve a BSc Honours degree you must study the equivalent of 18 modules over the three years of the course, as described in the following section.

Modules are also given a credit weighting so that modules at different Universities can be compared, so 0.5 modules are worth 10 credits, 1.0 modules 20 credits and 2.0 modules 40 credits. Listed below are the different credits that are needed to achieve a Bachelor of Honours degree, a Bachelor degree without honours, a Diploma of Higher Education (DipHE) or a Certificate of Higher Education (CertHE).

In year 1 of the course all of the modules are compulsory. However, in subsequent years as well as compulsory modules there is a degree of optionality as outlined below. When making your choices in Year 2 it is important that you also consider the

modules in the final year as some of these can only be studied if you have already completed the requisite modules in year 2. This will be explained to you in more detail by the course leader during progression (section 2.2.1).

Course Structure

Year 1

All of the following modules are compulsory

| Module Code | Module Title | Credit Rating |
|-------------|----------------------------------|---------------|
| BL1011 | Fundamentals of Biosciences | 60 |
| BL1012 | Essentials Skills in Biosciences | 40 |
| BL1605 | Introduction to Field Biology | 20 |

Year 2

The modules BL2607 and BL2011 are compulsory for all students, thereafter you must choose a further 2 modules (together worth a total of 40 credits) as indicated below.

| Module Code | Module Title | Credit Rating |
|-------------|-------------------------------------|---------------|
| BL2607 | Evolutionary Biology | 20 |
| BL2011 | Biological Practical skills | 60 |
| | Plus TWO from the following: | |
| BL2603 | Biodiversity and Conservation | 20 |
| BL2012 | Biology of Disease | 20 |
| BL2013 | Molecules to Cells | 20 |
| BL2014 | Tissues to Organisms | 20 |

Year 3

The Fieldwork module (NT3011) and Biology Project (BL3011) module are compulsory for all students. You will then need to choose a further 3 modules (together worth a total of 60 credits) as shown below (and overleaf).

| Module Code | Module Title | Credit rating |
|-------------|---------------------------------------|---------------|
| NT3011 | Fieldwork | 20 |
| BL3011 | Research Project | 40 |
| | Plus THREE from the following: | |
| NT3021 | Applied Ecology | 20 |
| BL3603 | Work Based Learning | 20 |
| FZ3054 | Human Evolution | 20 |
| BL3016 | Infection Sciences | 20 |
| BL3017 | Molecular and Cellular Pathology | 20 |
| BL3021 | Drug Development | 20 |

2.2 Modules available

Each module is a self-contained block of learning with defined aims, learning outcomes and assessment. A standard module is worth 20 credits. It equates to the learning activity expected from one sixth of a full-time undergraduate year. Modules may be developed as half, double or triple modules with credit allocated up to a maximum of 120 credits per module.

Year 1

BL1011 Fundamentals of Biosciences

This module introduces the science that underpins our current understanding of biology, progressing from the molecular biology of the cell, through to level of the whole organism. It will cover the theoretical knowledge and practical experience of common biological techniques including:

- Biomolecular Structure and Function
- Cell Structure
- Inheritance of The Genome
- Enzymes as Biological Catalysts.
- Cellular Metabolism.
- Inter and Intra Cellular Communication and Transport
- Pharmacology
- Human Physiology
- Introduction to Microbiology and Microorganisms

BL1012 Essentials Skills in Biosciences

This module introduces the fundamental concepts and skills that provide the necessary foundations to support the understanding of biology as a discipline including:

- The chemical principles underlying biology – An introduction to the basic principles of chemistry as a foundation to understand biological processes.
- A working knowledge of mathematics and descriptive statistics – Arithmetic skills, powers, algebraic skills, data analysis, basic calculations relating to concentrations with an emphasis on solution preparations and unit interconversions. Producing and using graphs. Describing data and introduction to statistics.
- An introduction to handling and presenting information – Effective literature searching, using databases, scientific communication, referencing and plagiarism.
Biosciences as a discipline – Risk assessment, health & safety, COSHH, ethics, use of model organisms in experimentation and research governance.

Employability – Personal development planning (PDP), transferable skills, preparing your CV and interview skills.

BL1605 Introduction to Field Biology

This module seeks to introduce students to some practical elements of environmental biology with a focus on natural environments and the impact of human activities. The learning and teaching strategy will develop a range of academic and personal skills including biological and environmental data collection, data analysis and presentation, self-organisation, independent study and research, accessing and assessing information sources, and effective communication including academic writing and presentation skills.

Year 2

BL2607 Evolutionary Biology

The aim of this module is to provide students with a good insight into evolutionary biology and the processes and mechanisms that have generated life on earth, and to reinforce and apply ecological and environmental knowledge. Evolution underpins many of the concepts of ideas across all areas of biology and develops a deep understanding of the theories and processes that explain for example:

- Why there are such high levels of biological diversity and the reason behind the vulnerability of small populations
- How resistance to antibiotics, pesticides and environmental contaminants can arise
- How co-evolutionary relationship such as those between vectors and pathogens, plants and pollinators and behavioural traits such as sexual selection, mating systems and social status have come about.

BL2603 Biodiversity and Conservation

The module focuses on species biodiversity, distribution and conservation. With the future of so many species uncertain, an understanding of the factors relevant to their persistence is essential. Only through such knowledge can we actively manage habitats and populations to increase the chances of their survival. The module introduces key theoretical ecological concepts related to habitat management and species conservation before concentrating on practical aspects of conservation and also exploring broader related themes of conservation policy and ecosystem services.

BL2012 Biology of Disease

To develop an understanding of the interdisciplinary nature of the different pathology specialisms (including immunology, microbiology, haematology, cellular pathology and biochemistry) within Biomedical and Healthcare Science. To introduce students to a variety of approaches in the investigation of the causes and effects of disease at the cellular and subcellular level. To develop an understanding of the aetiology, pathophysiology, diagnosis and treatment of diseases currently presenting major health care challenges.

BL2014 Molecules to Cells

This module aims to enable the student to expand on the principles of molecular biology, cell biology and genetics learned in year one and to ultimately appreciate the relationship between genotype and phenotype. Concepts such as how genomes are maintained, copied and inherited, how gene expression is regulated, and how mutations are acquired, will be covered. The effect these mutations have on protein function, maturation and trafficking, and the implications of these on cellular functions, including intracellular signalling pathways, the cell cycle and cell death will also be studied. Content includes Molecular Biology, Cell Biology and Genetics.

BL2014 Tissues to Organisms

To provide students with a detailed knowledge of major organ systems of the body and the opportunity to investigate the function of organ systems through physiological measurement and data analysis. Also to provide an opportunity to develop research skills and present findings from experimentation or literature searching. Module content to include: Cardiovascular Physiology, Respiratory Physiology, Renal Physiology, Gastrointestinal Physiology, Reproductive Physiology, Physiology of the Nervous System and Muscle Physiology.

Year 3

NT3011 Fieldwork

This module provides an opportunity for specialist field investigation relevant to the final year of your degree programme, and will allow detailed field-based investigation of course themes in one or more chosen locations. It will also extend theoretical and practical knowledge through fieldwork, provide experience of devising, conducting and reporting on small-scale field investigation, and develop higher level field skills in observation, experimental design and reporting.

BL3011 Research Project

The research project provides you with the opportunity to consolidate and to apply knowledge and a range of laboratory/research skills attained throughout your

undergraduate programme. You will be able to actively engage in the scientific research process and write up your results in a dissertation.

NT3021 Applied Ecology

This module aims to provide you with a working knowledge of how ecological principles affect the lives of almost everyone. This will be shown through examples drawn from industries and practices which demonstrate how fundamental concepts of ecology are utilised to promote production and profit, often at the detriment of the environment. Topical case study material will, where appropriate, draw upon anthropogenic activities influencing ecosystems.

BL3603 Work Based Learning

This module aims to provide you with experience of the application of biology in a setting relevant to your degree which will enable you to reflect on the experience and your own skills and development needs in relation to future careers.

FZ3054 Human Evolution

The module aims to introduce students to evolutionary and biocultural processes represented by the hominin fossil and associated archaeological records; the extinct species of humans and their fossils; modern molecular and developmental techniques for determining evolutionary relationships in hominin clades; other primates and our relationships with them; the controversies represented in the discipline of palaeoanthropology and develop skills in researching literature and electronic resources in palaeoanthropology. It aims to: provide an overview of human evolutionary anatomy and phylogenetic reconstruction; to provide an in-depth understanding of human biocultural evolution at a detailed level; for students to gain knowledge of the types of hominins in the fossil record and critically evaluate the evidence for the evolutionary relationships between them; to allow students to think about their place in nature, to analyse their own opinions about humans and animals, and to challenge the process of science; and to develop transferable skills in students, specifically: analysis of the literature, essay writing and oral and visual communication

BL3016 Infection Sciences

This module aims to

- critically review, consolidate and extend a systematic and coherent body of knowledge of core and specialised concepts of infection and disinfection sciences, including pathogenicity and virulence and host-pathogen interactions (including host responses to microbial attack).
- study the strategies employed by different microbial groups to elicit infection.
- discuss a range of established and new investigative approaches/cultural techniques, including those for high-risk patient groups (as defined by WHO).

- learn underlying principles and the applications of clinical microbiology and infection control in a hospital setting.
- provide knowledge of treatment strategies (including those for high-risk patients) and microbial resistances that can emerge in response to those treatments. The concept of antibiotic guardianship.
- provide knowledge of specialist laboratory services provided by Public Health England.

BL3017 Molecular and Cellular Pathology

This module aims to

- inform the student of the application of current analytical techniques used in cellular and molecular pathology.
- demonstrate the core scientific concepts of histopathology and cytopathology in the understanding of disease processes and diagnosis.
- demonstrate how molecular information underpins many developments in the diagnosis and treatment of disease. To develop a critical awareness of genomics and proteomics as tools for the analysis of genetic disorders.
- provide students with the necessary skills to apply knowledge in the pursuance of a career in cellular and molecular pathology.

BL3021 Drug Development

This module aims to

- consider the process of releasing a drug on to the market by discussing the process from initial source identification, through animal models to clinical trials and the legislation required.
- provide students with an experience of a broad range of pharmacological and biochemical techniques appropriate for use when investigating the mechanism of action, efficacy of drugs and their removal from the body.
- To provide students with an experience of obtaining, manipulating and interpreting a range of pharmacological and pharmacokinetic data to present in an appropriate format

2.3 Module Registration Options

Discussions about your progression through the course normally take place in February each year. It is an opportunity for you to make plans for your study over the next academic year. The course team will tell you about the various modules / combinations available and you will both agree on the most appropriate (and legal) course of study for you.

2.4 Study Time

2.4.1 Weekly timetable

A timetable will be available once you have enrolled onto the programme, through the Student Portal.

This is your personal timetable which will include all your classes you need to attend, please check your timetable regularly as changes may sometimes occur.

2.4.2 Expected hours of study

How much work do you have to do? A lot depends on you. As a rough guide the normal amount of work involved in achieving a successful outcome to your studies is to study for 10 hours per each credit you need to achieve – this includes attendance at UCLan and time spent in private study.

On average, then, you should be planning to do between 36 and 40 hours per week. **Any lesser commitment than this could affect your changes of progressing onto your chosen course.** You should bear this in mind if you are going to undertake part-time employment. Your first commitment must be to the course: you are a **full-time** student it means just that.



2.4.3 Attendance Requirements

You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to:

You are required to attend all timetabled learning activities for each module. Notification of illness or exceptional requests for leave of absence must be made to the Foster Hub 01772 891990 or 01772 891991 or e-mail FosterHub@uclan.ac.uk. Unauthorised absence is not acceptable and may attract academic penalties and/or other penalties. **Authority will NOT be given for holidays during term times.**

For International Students under the Visas and Immigration (UKVI) Points Based System (PBS) - you **MUST** attend your course of study regularly; under PBS, UCLan is obliged to tell UKVI if you withdraw from a course, defer or suspend your studies, or if you fail to attend the course regularly.

If you have not gained the required authorisation for leave of absence, do not respond to communications and if you are absent for 4 weeks or more you will be deemed to have withdrawn from the course. If this is the case then the date of withdrawal will be recorded as the last date of attendance

Each time you are asked to enter your details on SAM you must remember that the University has a responsibility to keep information up to date and that **you must only enter your own details on the system.** To enter any other names would result in inaccurate records and be dishonest. Any student who is found to make false entries can be disciplined under the student guide to regulations.

3. Approaches to teaching and learning

3.1 Learning and teaching methods

The Lecture is the most formal teaching method and serves primarily to define the syllabus. It should not be regarded as providing all you need to know, but rather as the 'skeleton' of knowledge. The responsibility for providing the 'flesh' rests largely with you and this is discharged through private study.

Laboratory classes are a very important element of the course. They are primarily intended to train you in the principles and methods of empirical enquiry, and in the conventions of reporting investigations. You will receive comprehensive written guidelines in relation to the latter.

The major purpose of the *Seminar* is to encourage students to publicly discuss topics and issues, and through this develop the skills of criticism, argumentation and communication. As you will discover, several different seminar formats are employed.

Fieldwork is a vital part of Biology and offers the opportunities to undertake ecological investigations in given habitats. It may also permit collection of biological samples for further investigation in a laboratory setting.

Tutorials support for lectures and allow student to cover areas to a more in depth level or gain support in learning in a less formal atmosphere than a lecture.

Workshops will provide opportunities for interactive or 'hands on' learning in a less formal setting than the lecture.

As with all higher level education *you* are responsible for your own learning; the lectures are merely the starting point and you will have to undertake a substantial amount of study in order to succeed.

3.2 Study skills

This course is designed to encourage students to develop their study skills, not only with a dedicated skills module but through all aspects of the course. We also encourage students to make full use of the support services provided by the university WISER <http://www.uclan.ac.uk/students/study/wiser/index.php>

Study Skills - 'Ask Your Librarian'

https://www.uclan.ac.uk/students/support/study/it_library_trainer.php

You can book a one to one session with a subject Librarian via Starfish. These sessions will help with questions such as "My lecturer says I need a wider variety of sources in my references, what do I do?"

"I need to find research articles, where do I start?"

"How do I find the Journal of ...?"

"How do I use RefWorks?"



3.3 Learning resources

3.3.1 Learning and Information Services (LIS)

The best place to start when exploring the Library resources available to you is;

- Your 'Subject Guide' can be found in the [Library Resources](#)
- Your 'My Library' tab in the [Student Portal](#)
- [Library search](#)

Extensive [resources](#) are available to support your studies provided by the university LIS – library and IT staff. Take advantage of the free training sessions designed to enable you to gain all the skills you need for your research and study.

3.3.2 Electronic Resources

LIS provide access to a huge range of electronic resources – e-journals and databases, e-books, images and texts.

Course and module materials are **not** provided in 'hard copy' format, however, wherever practicable, lecture notes and/or presentations, seminar materials, assignment briefs and materials and other relevant information and resources are made available in electronic form via **Blackboard**. This is the brand name for the on-line Virtual Learning Environment (VLE) that the University uses to support and enhance teaching and learning.

All students can access the Blackboard spaces for the course and modules that they are registered for. Once logged into your Blackboard area you can access material from the course and all of the modules you are studying without having to log in to each module separately.

You can expect that, on the Course page, you will be able to access:

1. Course Handbook
2. Student Guide to Assessment
3. Timetables
4. Minutes of SSLC Meetings
5. External Examiners Report

You can expect that, on each module space, you will be able to access:

1. Module Description
2. Module Booklet
3. Assignment briefs (including a marking scheme), if not included in the module booklet
4. Generic feedback on coursework assignments
5. Handouts for tutorials and practicals
6. Lecture notes (no later than 48hrs **after** the date of the lecture).
7. A past exam paper (if there is an exam in the module)
8. Generic feedback on the examination paper

3.4 Personal development planning

While you are at university, you will learn many things. You already expect to learn lots of facts and techniques that support your studies, but you will also learn other things of which you might be unaware. You will learn how to study, how to work with other people, how to manage your time to meet deadlines, and so on. If you are to be an employable graduate it is vital that you can list in your CV the skills that employers value.

Employers are looking for skills such as:

- self-organisation
- team work
- good written communication
- good oral communication
- problem solving

To help you, we have introduced a system that aims to:

- help you to identify the skills you should be developing,
- help you to identify the ones you are weak in, and
- to take action to improve those skills.

This approach can broadly be described as Personal Development Planning (PDP), and is delivered and monitored through skills modules and the Academic Advisor system. Students are provided with a PDP handbook in electronic format and are introduced to the idea by their Academic Advisor (AA). Their AA will then guide them throughout their time at university, both in constructing their PDP and in making sure that they are developing the right skills, helping them to identify and address any issues.

Each student sees their AA six times a year (seven in year 1) for a small group tutorial where the AA and other students will discuss a particular skill or employability issue. Typically, the student will have prepared a document or done a task in preparation for the meeting. Topics targeted at meetings include time management and vocabulary developing at Level 4, ranging up to psychometric testing and help with job applications at Level 6. These tutorials help students to identify and develop their skills and also encourage a culture of confidence between tutee and AA, so that if any specific problems arise with a student the AA will be in a position to assist.

The AA topics are constantly reviewed and updated in response to current practice in the workplace and to feedback from AAs and tutees. AAs insist on seeing a completed PDP before writing references.



3.5 Preparing for your career

Your University experience is not only about achieving your chosen award, it is also about developing as a person and realising your potential. We want you to gain the skills and attitudes that will help you to achieve your goals and aspirations.

Your future is important to us, so to make sure that you achieve your full potential whilst at university and beyond, your course has been designed with employability learning integrated into it. This is not extra to your degree, but an important part of it which will help you to show future employers just how valuable your degree is. These “Employability Essentials” take you on a journey of development that will help you to write your own personal story of your time at university:

- To begin with, you will explore your identity, your likes and dislikes, the things that are important to you and what you want to get out of life.
- Later, you will investigate a range of options including jobs and work experience, postgraduate study and self-employment,
- You will then be ready to learn how to successfully tackle the recruitment process.

You will be able to record your journey using Pebblepad, the university’s e-portfolio system, which will leave you with a permanent record of all the fantastic things you have achieved during your time at UCLan.

It’s your future: take charge of it!

Careers offers a range of support for you including:-

- career and employability advice and guidance appointments
- support to find work placements, internships, voluntary opportunities, part-time employment and live projects
- workshops, seminars, modules, certificates and events to develop your skills

Daily drop in service available from 09:00-17:00 for CV checks and initial careers information. For more information come along and visit the team (in Foster building near the main entrance) or access our careers and employability resources via the Student Portal.

4. Student Support

Information on the support available is at: <https://www.uclan.ac.uk/students/>

Perhaps the most important thing that the School of Pharmacy and Biomedical Sciences will give you is support. We will guide you through your foundation year and instil in you the skills and knowledge required to progress to your chosen area of study.



4.1 Academic Advisors

You will be assigned an Academic Advisor at the start of the year for the whole year.

They are responsible for providing you with support and advice in relation to your programme of studies, assistance in accessing other services available to students within the University, and to offer whatever help and assistance they can

to make your time on this course a satisfying and stimulating experience. Their job is not to have all the answers but they will be able to direct you to the person or place where they can be found. Your academic advisor should be supportive, helpful and try to understand (but not necessarily share) your point of view when you need advice. At times, it may be necessary for them to challenge you over your progress, performance or attendance, but it is not their role to constantly monitor you in these areas as may have happened at school. Your Personal Tutor should be your first point of contact for advice on a wide range of academic, personal, administrative and practical issues.

This source of support is an important feature of the course and we would encourage you to see your Personal Tutor as a friend and helper. Alternatively, where problems are related to a particular module, you are encouraged to approach the module tutor. You should meet with your personal tutor regularly. You are encouraged to have regular meeting with your Personal Tutor. You should have at least six meetings with the Personal Tutor over the year.

Both you and your tutors should keep appropriate records of meetings and this may form part of your Personal Development Process.

If you need to get advice in an emergency or when your personal tutor is not available then another member of your teaching team will endeavour to help you.

4.2 Students with disabilities

If you have a disability that may affect your studies, please either contact the Disability Advisory Service - disability@uclan.ac.uk - or let one of the course team know as soon as possible.

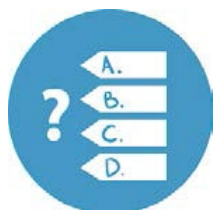
With your agreement information will be passed on to the Disability Advisory Service. The University will make reasonable adjustments to accommodate your needs and to provide appropriate support for you to complete your study successfully. Where necessary, you will be asked for evidence to help identify appropriate adjustments.

4.3 Students' Union

The Students' Union offers thousands of volunteering opportunities ranging from representative to other leadership roles. We also advertise paid work and employ student staff on a variety of roles. You can find out more information on our website:

<http://www.uclansu.co.uk/>

5. Assessment



5.1 Assessment Strategy

The Course Team recognise the main purpose of assessment as:

- the diagnosis of strengths and weaknesses of individual students
- encouragement to students to be involved in determining their own performance
- evaluation as to whether or not the student has met the learning outcomes of the module and programme in order to progress to the next level or achieve an exit award

Assessment is continuous and uses both formative and summative methods.

Formative assessment relates to the continuing and systematic appraisal of the degree of learning. This helps you by providing feedback on the appropriateness of your study skills in meeting the learning objectives. It also assists the academic staff by providing information as to the appropriateness of the learning environment in facilitating student learning. Formative assessment includes assessment strategies that encourage the student and tutor to build on the student's strengths and to plan remedial help to correct identified weaknesses. Formative assessment encourages the development of personal self-awareness and self-evaluation such that corrective change can be instigated by the individual.

The nature of formative assessment varies between modules. In some there are short tests or essays, while in others there is informal feedback via activities such as tutorials or discussion of experiment results during laboratory sessions.

It is important that we try to match assessment to the learning outcomes of each module. Sometimes we need to assess how well you have assimilated facts, sometimes we need to assess your understanding, and at other times your application of the facts. Often we need to test all of these learning outcomes at once. In addition, we need to assess skills, such as your ability to communicate your ideas.

The assessment methods and what we are trying to assess by the particular method are shown below:

Examinations Short answer questions are usually looking for how well you have learned factual information. Essay questions are looking for your understanding and critical analysis skills.

Presentations Your ability to collect and surmise information and your presentational skills under pressure are being assessed here, as is the ability to think on your feet using the facts that you have learned.

| | |
|--------------|--|
| Essays | Non-examination situation essays assess your understanding of the subject as well as your research, written communication and critical analysis skills. |
| Short notes | Your ability to collect and surmise information concisely and accurately are assessed with this type of assessment. |
| Case studies | These assess the application of theory to practical situations. They also assess either your written or oral presentation skills when communicating your deliberations to the class or marker. |

You will find a detailed breakdown of the assessments in the module booklets you will be given at the start of each module.

5.2 Notification of assignments and examination arrangements

We will try to spread the assessment load. Nevertheless, it is important that you plan your work around the assessment timetable. For this reason assessment dates are detailed in the module booklets. Hand-in times and dates will also be included in the assessment brief that accompanies every assessment. Once examination dates have been set you will be notified on your timetable.

5.3 Referencing

There are a number of ways to include referencing within text. Generally, scientists use the Harvard system but other systems may be acceptable if you discuss it with your module tutor.

5.4 Cheating, plagiarism, collusion or re-presentation

Please refer to the information included in section 6.6 of the University Student Handbook for full definitions. The University uses an online Assessment Tool called Turnitin. A pseudo-Turnitin assignment will be set up using the School space on Blackboard to allow students to check as many drafts as the system allows before their final submission to the 'official' Turnitin assignment. Students are required to self-submit their own assignment on Turnitin and will be given access to the Originality Reports arising from each submission. In operating Turnitin, Schools must take steps to ensure that the University's requirement for all summative assessment to be marked anonymously is not undermined and therefore Turnitin reports should either be anonymised or considered separately from marking. Turnitin may also be used to assist with plagiarism detection and collusion, where there is suspicion about individual piece(s) of work.

You can find more about the various forms of plagiarism and how to avoid it in the following publications:

Bone, Alison, *Plagiarism: a guide for law lecturers*, UK Centre for Legal Education, 28th October 2003 (www.ukcle.ac.uk/resources/plagiarism.html).

Smith, Jean et al, *How to avoid plagiarism*.
<http://www.northwestern.edu/uacc/plagiar.html>

Extract from University of Brighton Student Guide, *All my own work? Plagiarism and how to avoid it*, UK Centre for Legal Education, 12th July 2003
<http://www.ukcle.ac.uk/resources/trns/plagiarism/guide.html>

Writing Tutorial Services, *Plagiarism: What It is and How to Recognize Avoid It*, Indiana University, Bloomington, IN, USA
<http://www.indiana.edu/~wts/pamphlets/plagiarism.pdf>

5.6 How do I know that my assessed work had been marked fairly?

Assessment is an integral part of the course. Module staff work closely together to design assessments, agree the marking criteria and approve final versions of assessments to ensure that these are appropriate. The criteria for assessment will be communicated to you clearly during the module teaching.

All module staff engage in development and training in assessment, marking and feedback. Once the assessments have been completed the module team will discuss the assessment methods and marking criteria, prior to starting to mark, so that there is a common understanding of what is expected of students. All assessed modules have moderation built into the marking process. Moderation involves sampling students' assessed work to make sure that the learning outcomes and agreed marking criteria have been interpreted and applied in the same way. This ensures that you and your fellow students are treated equitably and that the academic standards are applied consistently. During the marking process the module leader will co-ordinate moderation to ensure that at least 10% of assessed work (or a minimum of three pieces) has been reviewed by other markers and any concerns about consistency or accuracy addressed with the whole module team. Your work may or may not be part of this sample, but the processes for developing assessments and marking criteria as well as moderation mean that you can be confident that teaching staff are marking assessments to the same criteria. Module teams may then use feedback from moderation to improve clarity about the nature and purpose of future assessment, or to make changes if required.

Modules are also moderated externally. The module leader will arrange for the external examiner to receive a sample of work for review and comment. External examiners cannot change individual grades but can act as 'critical friends' and confirm that marking standards are in line with other, similar courses in the sector. If, on reviewing the sample, external examiners feel that the marking criteria have not been applied consistently the work of the whole cohort will be reviewed.

6. Classification of Awards

The University publishes the principles underpinning the way in which awards and results are decided in [Academic Regulations](#). Decisions about the overall classification of awards are made by Assessment Boards through the application of the academic and relevant course regulations.



7. Student Feedback

You can play an important part in the process of improving the quality of this course through the feedback you give.

In addition to the on-going discussion with the course team throughout the year, there are a range of mechanisms for you to feedback about your experience of teaching and learning. We aim to respond to your feedback and let you know of our plans for improvement.

The Students' Union can support you in voicing your opinion, provide on-going advice and support, and encourage your involvement in all feedback opportunities. They will be asking that you complete the National Student Survey (during semester 2 for students in their final year of study) or the UCLan Student Survey (all other students).

The Students' Union and University work closely together to ensure that the student voice is heard in all matters of student-life. We encourage students to provide constructive feedback throughout their time at university, through course reps, surveys and any other appropriate means,

The Union's Student Affairs Committee (SAC), members of Students' Council and School Presidents each have particular representative responsibilities, and are involved with decision making committees as high as the University Board. Therefore, it is very important students engage with the democratic processes of the Students' Union and elect the students they see as most able to represent them.

7.1 Student Staff Liaison Committee meetings (SSLCs)

Details of the Protocol for the operation of SSLCs is included in section 8.2 of the University Student Handbook.

The purpose of a SSLC meeting is to provide the opportunity for course representatives to feedback to staff about the course, the overall student experience and to inform developments which will improve future courses. These meetings are normally scheduled once per semester.

Meetings will be facilitated using guidelines and a record of the meeting will be provided with any decisions and / or responses made and / or actions taken as a result of the discussions held. The meetings include discussion of items forwarded by course representatives, normally related to the following agenda items (dependent on time of year).

The course team encourage student feedback in all areas and recognise that additional items for discussion may also be raised at the meeting

- Update on actions completed since the last meeting
- Feedback about the previous year – discussion of external examiner's report; outcomes of National /UCLan student surveys.
- Review of enrolment / induction experience;
- Course organisation and management (from each individual year group, and the course overall);
- Experience of modules - teaching, assessment, feedback;
- Experience of academic support which may include e.g. Personal Development Planning, academic advisor arrangements;
- Other aspects of University life relevant to student experience e.g. learning resources, IT, library;
- Any other issues raised by students or staff.
-

8. Appendices

8.1 Programme Specification

UNIVERSITY OF CENTRAL LANCASHIRE

Programme Specification

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided.

Sources of information on the programme can be found in Section 17

| | |
|--|--|
| 1. Awarding Institution / Body | University of Central Lancashire |
| 2. Teaching Institution and Location of Delivery | University of Central Lancashire, Preston |
| 3. University School/Centre | School of Pharmacy and Biomedical Sciences |
| 4. External Accreditation | |
| 5. Title of Final Award | BSc (Hons) Biology |
| 6. Modes of Attendance offered | Full Time/Part Time/Sandwich |
| 7. UCAS Code | CC10 |
| 7b JACS code | C100 100346 |
| 8. Relevant Subject Benchmarking Group(s) | QAA Subject Benchmark Statement: Biosciences 2015 (SBS) http://www.qaa.ac.uk/en/Publications/Documents/SBS-Biosciences-15.pdf |
| 9. Other external influences | Accreditation criteria Royal Society of Biology https://www.rsb.org.uk/images/RSB_Accreditation_Handbook.pdf |
| 10. Date of production/revision of this form | July 2020 |
| 11. Aims of the Programme | |
| <ul style="list-style-type: none">• To enthuse and motivate students, and develop their understanding of biology in a way that encourages originality of thought and breadth of vision.• To instil an understanding of the study of biology and its importance and application in different contexts. | |

| |
|--|
| <ul style="list-style-type: none"> • To develop a knowledge and understanding of biology, based on a scientific foundation, with the ability to apply knowledge and analyse and evaluate information. |
| <ul style="list-style-type: none"> • To involve the learner in a supportive and stimulating learning environment in which students are encouraged to achieve personal growth in terms of a wide range of skills including communication, numeracy, IT, independence, interpersonal and group-working skills. |
| <ul style="list-style-type: none"> • To provide experience of current analytical techniques and practical skills relevant to biology and appropriate for employment. |
| <ul style="list-style-type: none"> • To prepare the learner for a career in biology or in positions requiring knowledge of biology |
| 12. Learning Outcomes, Teaching, Learning and Assessment Methods |
| A. Knowledge and Understanding |
| <p>A1 Evaluate the fundamental concepts, principles, theories and current developments in modern Biology, including study of the interrelationships of living organisms and the importance of natural selection and evolutionary processes and the philosophical and ethical issues involved.</p> <p>A2 Use various analytical techniques and apply them to different fields of biology.</p> <p>A3 Apply theory/knowledge to new situations, including the formulation of a hypothesis, the design of experiments and the appropriate use of statistical analysis to enable a valid interpretation of experimental results.</p> |
| Teaching and Learning Methods |
| <p>A range of teaching and learning methods will be used, including lectures, practicals, laboratory sessions, fieldwork, tutorials, presentations, problem solving exercises, case studies, discussions and reflection. Blended learning is utilised in modules integrating taught, self-directed and E-learning. The final year research module will provide students the opportunity to further consolidate research skills.</p> |
| Assessment methods |
| <p>Through a combination of workbooks; short notes; essays; reports of various types e.g. practical reports, summaries, data analysis; group and individual presentations and end of module examinations.</p> |
| B. Subject-specific skills |
| <p>B1. Employ a variety of methods in investigating, recording and analysing material.</p> <p>B2. Make use of appropriate laboratory and field based equipment, to enable a biological study to be undertaken.</p> <p>B3. Discuss the safety aspects to be considered when undertaking laboratory and field based investigations and to work safely and ethically within a laboratory or field environment.</p> <p>B4. Analyse a range of data derived experimentally or sourced from the literature or databases and present them in the most appropriate format and interpret the findings from such data.</p> <p>B5. Explain the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment.</p> <p>B6. Read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application.</p> |
| Teaching and Learning Methods |
| <p>A range of teaching and learning methods will be used, including lectures, practicals, laboratory sessions, fieldwork, tutorials, presentations, problem solving exercises, case studies, discussions and</p> |

reflection. Blended learning is utilised in modules integrating taught, self-directed and E-learning. The final year research module will provide students the opportunity to further consolidate research skills.

Assessment methods

Through a combination of workbooks; short notes; essays; reports of various types e.g. practical reports, summaries, data analysis; group and individual presentations and end of module examinations, and a research project report.

C. Thinking Skills

- C1. Acquire, interpret and analyse biological information with a critical understanding of the appropriate contexts for their use through the study of texts, original papers, reports and datasets.
- C2. Define and develop strategies for solving problems.
- C3. Analyse a range of data derived experimentally, or from the literature or databases, and evaluate it critically with the support of a logical and structured argument.

Teaching and Learning Methods

A range of teaching and learning activities will be used including lectures; practical work, data interpretation exercises; case studies; problem based exercises; discussions within the group and with tutors. A final year research module will give the students the opportunity to develop their research skills, including selection and interpretative skills and mastery of using primary and secondary sources.

Assessment methods

Through a combination of workbooks; short notes; essays; presentations; examinations; reports of various types e.g. practical reports, summaries, data analysis and the final year research project.

D. Other skills relevant to employability and personal development

- D1. Write using an appropriate scientific style,
- D2. Work as a useful contributor to a group or independently.
- D3. Use information technology effectively for information retrieval, analysis, communication and presentations.
- D4. Communicate appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.
- D5. Develop the skills necessary for self-managed and lifelong learning to include working independently, time management, organisational, enterprise and knowledge transfer skills.

Coursework is generally required to be word processed; workshops developing skills in the use of appropriate IT sources, including the World Wide Web, the use of databases and suitable IT analytical packages; workshops on library and literature searching; presentations; practical work incorporating numeracy and statistics; teamwork through tutorials, case studies, practical's and problem solving activities. Students are given guidance on the development of skills via the personal tutor system.

Assessment methods

Through a combination of written reports, presentations; laboratory notebooks; group and individual project; data analysis and presentations and a final year research project report.

| 13. Programme Structures* | | | | 14. Awards and Credits* |
|---------------------------|----------------------------------|--|---------------|---|
| Level | Module Code | Module Title | Credit rating | |
| Level 6 | NT3011 | Fieldwork | 20 | BSc (Hons) Biology Requires 360 credits including a minimum of 220 at Level 5 or above and 100 at Level 6 BSc Biology Requires 320 credits including a minimum of 180 at Level 5 or above and 60 at Level 6 Students who successfully complete the FZ2055 placement module will receive the award “in sandwich mode” |
| | BL3011 | Research Project | 40 | |
| | NT3021 | Applied Ecology | 20 | |
| | BL3603 | Work Based Learning Module | 20 | |
| | FZ3054 | Human Evolution | 20 | |
| BL3016 | Infection Science | 20 | | |
| BL3017 | Molecular and Cellular Pathology | 20 | | |
| BL3021 | Drug Development | 20 | | |
| Level 5 | BL2607 | Evolutionary Biology | 20 | Diploma of Higher Education Biology Requires 240 credits including a minimum of 100 at Level 5 or above |
| | BL2011 | Biological Practical Skills | 60 | |
| | BL2603 | Biodiversity and Conservation | 20 | |
| | BL2012 | Biology of Disease | 20 | |
| | BL2013 | Molecules to Cells | 20 | |
| BL2014 | Tissues to organism | 20 | | |
| | FZ2055 | Placement Module | 120 | |
| | | For a Sandwich award students will undertake the following module between years 2 and 3 assessed on a pass/fail basis: | | |
| Level 4 | BL1011 | Fundamentals of Biosciences | 60 | Certificate of Higher Education Requires 120 credits at Level 4 or above |
| | BL1012 | Essentials Skills in Biosciences | 40 | |
| | BL1605 | Introduction to Field Biology | 20 | |
| Level 3 | | Students taking Foundation Year on Campus will take the following modules:- | | Requires completion of 120 credits at Level 3. Successful completion of the course leads to progression on to Year 1 of: BSc Hons.... <ul style="list-style-type: none"> - Chemistry - Forensic Science - Forensic Science and Anthropology |
| | FZC013 | Study Skills | 30 | |
| | FZC015 | Biology | 30 | |
| | FZC016 | Chemistry | 30 | |
| | FZC017 | Mathematics & Physics | 30 | |

| | | | | |
|--|--------|--|----|---|
| | | Students taking Foundation Year at a partner college will take the following modules:- | | Depending on results of the foundation degree students averaging 60% or more may also be eligible to progress to: |
| | YOC001 | Skills for Science | 20 | BSc Hons... - Biology - Biomedical Science - Physiology and Pharmacology - Neuroscience Other courses may also become available. Students who exit after the Foundation year will receive a transcript of their modules and grades. |
| | YOC002 | Biology | 20 | |
| | YOC003 | Chemistry | 20 | |
| | YOC004 | Physical Sciences | 20 | |
| | YOC005 | Biochemistry | 20 | |
| | YOC006 | Environmental Science | 20 | |

15. Personal Development Planning

This is a structured and supported process undertaken by an individual to reflect upon their own learning, performance and / or achievement and to plan for their personal, educational and career development.

Students are provided with a PDP handbook in electronic format and are introduced to the idea by their Academic Advisor. Their Academic Advisor will then guide them throughout their time at university, both in constructing their PDP and in making sure that they are developing the right skills, helping them to identify and address any issues.

PDP is delivered and monitored through skills modules and the academic advisor system. Year 1 students will regularly see their academic advisor over the year within small group tutorials where the academic advisor and other students will discuss a particular skill or employability issue, or in individual meetings with the academic advisor. Typically the student will have prepared a document or done a task in preparation for the meeting. These meetings help students to identify and develop their skills and also encourage a culture of confidence between tutee and advisor, so that if any specific problems arise with a student the academic advisor will be in a position to assist.

The topics discussed in meetings are constantly reviewed and updated in response to current practice in the workplace and to feedback from Academic Advisors and students. A completed PDP will be used to assist Academic Advisors when writing references.

16. Admissions criteria *

(including agreed tariffs for entry with advanced standing)

**Correct as at date of approval. For latest information, please consult the University's website.*

Applicants will normally be required to have, one of:

Chemistry, Biology, BBC at A2, BTEC extended DMM, BTEC DD, Pass Access Course with 112 UCAS points, IB- Pass Diploma with 112 UCAS points including HL Chemistry or Biology
In addition applicants will be required to have five GCSE passes at Grade C/4 or equivalent including Maths and English.

Applicants will be required to have a minimum level of proficiency in English Language equivalent to IELTS grade 6 with no sub score lower than 5.5

Applications from individuals with non-standard qualifications, relevant work or life experience and who can demonstrate the ability to cope with and benefit from degree-level studies are welcome. If candidates have not studied recently they may be required to undertake an Access Programme. APL/APEL will be assessed through standard University procedures.

FOUNDATION Year Entry (on campus)

Entry to this Programme requires Chemistry, Biology, DDD at A2, BTEC extended MMP BTEC DM, Pass Access Course with 72 UCAS points, IB- Pass Diploma with 72 UCAS points including HL Chemistry or Biology

In addition, applicants will be required to have Maths and English GCSE at Grade C/4 or equivalent.

International Applicants will be required to have a minimum level of proficiency in English Language equivalent to IELTS grade 6 with no sub score lower than 5.5.

For admission to Foundation Year (Level 3) at a partner college:-

In line with our support of Access to Higher Education, applications are considered without or with few formal qualifications. Applicants are interviewed and if it can be shown the applicant has the ability to enjoy and benefit from degree level study a place will be offered. We will consider alternative or professional qualifications, life experience, motivation, commitment and assessment of key skills.

Please consult the website or UCLAN admissions department for the most up to date requirements.

17. Key sources of information about the programme

- Outside the University – QAA website, including the Biosciences benchmarks statements; UCAS handbooks and website; National Occupational Standards.
- University sources – UCLan School of Pharmacy and Biomedical Sciences website; University prospectus, Student Handbook.

18. Curriculum Skills Map

Please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed

| Level | Module Code | Module Title | Core (C), Compulsory (COMP) or Option (O) | Programme Learning Outcomes | | | | | | | | | | | | | | | | |
|-------|-------------|--------------|--|-----------------------------|--|--|--|--|--|-------------------------|--|--|--|--|--|-----------------|--|--|---|--|
| | | | | Knowledge and understanding | | | | | | Subject-specific Skills | | | | | | Thinking Skills | | | Other skills relevant to employability and personal development | |

| | | | | A1 | A2 | A3 | B1 | B2 | B3 | B4 | B5 | B6 | C1 | C2 | C3 | D1 | D2 | D3 | D4 | D5 |
|---------|--------|----------------------------------|------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| LEVEL 6 | NT3011 | Fieldwork | COMP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL3011 | Research Project | COMP | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | NT3021 | Applied Ecology | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL3603 | Work Based Learning Module | O | ✓ | | ✓ | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | FZ3054 | Human Evolution | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL3016 | Infection Sciences | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL3017 | Molecular and Cellular Pathology | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL3021 | Drug Development | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | | | | | | | | | | | | | | | | | | |
| LEVEL 5 | BL2607 | Evolutionary Biology | COMP | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL2011 | Biological practical skills | COMP | | ✓ | ✓ | ✓ | | | ✓ | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |
| | BL2603 | Biodiversity and Conservation | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL2012 | Biology of Disease | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL2013 | Molecules to Cells | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL2014 | Tissues to Organism | O | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | FZ2055 | Placement Module | O | ✓ | | | ✓ | ✓ | ✓ | | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ |

| | | | | | | | | | | | | | | | | | | | | |
|---------|--------|---------------------------------|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEVEL 4 | BL1011 | Fundamentals of Biosciences | COMP | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | BL1012 | Essential skills in Biosciences | COMP | ✓ | | ✓ | ✓ | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | | | | | | | | | | | | | | | | | | |
| | BL1605 | Introduction to Field Biology | COMP | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | | | | | | | | | | | | | | | | | | | | |

Note: Mapping to other external frameworks, e.g. professional/statutory bodies, will be included within Student Course Handbooks

19. LEARNING OUTCOMES FOR EXIT AWARDS:

For **each exit award available**, list learning outcomes relating to the knowledge and understanding, subject specific skills, thinking, other skills relevant to employability and personal development that a typical student might be expected to gain as a result of successfully completing each level of a course of study.

For example, for a standard BA/BSc (Hons) award the exit award learning outcomes for CertHE (Level 4) and DipHE (Level 5), BA/BSc (Level 6) should be included; for a postgraduate Masters, this would normally be PGDip and PGCert.

Learning outcomes for the award of: Certificate of Higher Education in Biology

Demonstrate an understanding of some of the fundamental concepts, principles, theories and current developments in modern Biology, including study of the interrelationships of living organisms and the importance of natural selection and evolutionary processes and the philosophical and ethical issues involved,

Use some of the basic analytical techniques and apply them to different fields of biology.

Work safely and ethically within a laboratory or field environment

Apply theory/knowledge to some new situations

Make use some basic laboratory and field based equipment, to enable a biological study to be undertaken

Analyse data derived experimentally or sourced from the literature or databases and present them in the most appropriate format and interpret the findings from such data

Explain the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment

Read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application

Acquire, interpret and analyse biological information with an understanding of the appropriate contexts for their use through the study of texts, original papers, reports and datasets.

Analyse data derived experimentally, or from the literature or databases, and evaluate it critically with the support of a logical and structured argument.

Write using an appropriate scientific style.

Work as a useful contributor to a group or independently

Use information technology effectively for information retrieval, analysis, communication and presentations.

Communicate appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.

Develop some of the skills necessary for self-managed and lifelong learning to include working independently, time management, organisational, enterprise and knowledge transfer skills.

Learning outcomes for the award of Diploma of Higher Education Biology

Demonstrate an understanding of many of the fundamental concepts, principles, theories and

current developments in modern Biology, including study of the interrelationships of living organisms and the importance of natural selection and evolutionary processes and the philosophical and ethical issues involved,

Use many of the basic analytical techniques and apply them to different fields of biology.

Apply theory/knowledge to new situations, including the formulation of a hypothesis, the design of experiments and the appropriate use of statistical analysis to enable a valid interpretation of experimental results.

Employ a variety of methods in investigating, recording and analysing material

Make use of much of the basic laboratory and field based equipment, to enable a biological study to be undertaken

Discuss the safety aspects to be considered when undertaking laboratory and field based investigations and to work safely and ethically within a laboratory or field environment

Analyse a range of data derived experimentally or sourced from the literature or databases and present them in the most appropriate format and interpret the findings from such data

Explain the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment

Read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application

Acquire, interpret and analyse biological information with some understanding of the appropriate contexts for their use through the study of texts, original papers, reports and datasets.

Define and develop strategies for solving problems.

Analyse data derived experimentally, or from the literature or databases, and evaluate it critically with the support of a logical and structured argument.

Write using an appropriate scientific style.

Work as a useful contributor to a group or independently

Use information technology effectively for information retrieval, analysis, communication and presentations.

Communicate appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.

Develop many of the skills necessary for self-managed and lifelong learning to include working independently, time management, organisational, enterprise and knowledge transfer skills.

Learning outcomes for the award of BSc Biology

Demonstrate an understanding of many of the fundamental concepts, principles, theories and current developments in modern Biology, including study of the interrelationships of living organisms and the importance of natural selection and evolutionary processes and the philosophical and ethical issues involved,

Use various analytical techniques and apply them to different fields of biology.

Apply theory/knowledge to new situations, including the formulation of a hypothesis, the design of experiments and the appropriate use of statistical analysis to enable a valid interpretation of experimental results.

Employ a variety of methods in investigating, recording and analysing material

Make use of most of the appropriate laboratory and field based equipment, to enable a biological study to be undertaken

Discuss the safety aspects to be considered when undertaking laboratory and field based investigations and to work safely and ethically within a laboratory or field environment

Analyse data derived experimentally or sourced from the literature or databases and present them in the most appropriate format and interpret the findings from such data

Explain the complexity and diversity of life processes through the study of organisms, their molecular, cellular and physiological processes, their genetics and evolution, and the interrelationships between them and their environment

Read and use appropriate literature with a full and critical understanding, while addressing such questions as content, context, aims, objectives, quality of information, and its interpretation and application

Acquire, interpret and analyse biological information with a good understanding of the appropriate contexts for their use through the study of texts, original papers, reports and datasets.

Define and develop strategies for solving problems.

Analyse a range of data derived experimentally, or from the literature or databases, and evaluate it critically with the support of a logical and structured argument.

Write using an appropriate scientific style.

Work as a useful contributor to a group or independently

Use information technology effectively for information retrieval, analysis, communication and presentations.

Communicate appropriately to a variety of audiences using a range of formats and approaches, using appropriate scientific language.

Develop most of the skills necessary for self-managed and lifelong learning to include working independently, time management, organisational, enterprise and knowledge transfer skills.

Addendum to the Course Handbook for

BSc (Hons) Biology

2020-2021

| Page | Section | Summary of change & previous text removed (state whether addition / deletion / amendment / etc) | Date of Approval |
|-------|----------|---|------------------|
| 9 -15 | 2 | Addition and deletion of modules | May 2020 |
| | Appendix | New programme specification | May 2020 |