



Course Handbook

BSc (Hons) Biomedical Science

2019-20

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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 School of Pharmacy and Biomedical Sciences at the University of Central Lancashire. We hope that you'll enjoy your studies and experiences in Preston. The Student Handbook brings together information to help you to answer queries you might have about the course. If we have missed something that you think should be included in this Handbook then please let us know.

We want this to be a positive learning experience for you. There will be some very hard work for you, but we hope that you'll find it interesting and stimulating, and that you'll have the chance to enjoy yourself along the way. We believe you can succeed, and we want you to succeed. All the academic and support staff are here to help you achieve that goal. Good luck!

1.1 Rationale, aims and learning outcomes of the course

The aims of this course are:

<ul style="list-style-type: none">• To develop a knowledge and understanding of human biology and disease based on a scientific foundation, with the ability to apply knowledge and analyse and evaluate information.
<ul style="list-style-type: none">• To instil an appreciation of the study of biomedical science and its importance and application in different contexts.
<ul style="list-style-type: none">• To involve the learner in a 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 develop competence in the definition, implementation and monitoring of plans for self-development.
<ul style="list-style-type: none">• To prepare the learner for a career in bioscience in positions requiring knowledge of human biology in relation to health and disease.

The learning outcomes of this course are:

A. Knowledge and Understanding
Be able to discuss and critically evaluate the principles of biomedical science and the underlying biological components, including those related to disease. This will include some elements where the uncertainty, ambiguity and the limits of knowledge within the discipline are exemplified.
Be able to discuss and determine appropriate methods of biomedical science relevant to practical problems.
Be able to discuss and identify the areas of study covered within biomedical science, and discuss associated ethical issues.
Be able to determine an appropriate statistical test to analyse data that will be produced from various types of study and be able to use those tests.
Subject-specific skills

Be able to describe and critically evaluate methods used in biomedical science.

Be able to make use of appropriate laboratory equipment to enable a biological study to be undertaken.

Be able to apply specialist knowledge of biomedical science to investigations and to new situations e.g. formulation of a hypothesis and designing experiments.

Be able to design, perform and interpret the results of experiments investigating biological systems.

Be able to discuss the safety aspects to be considered when undertaking laboratory based investigations and to work safely within a laboratory environment.

Thinking Skills

Be able to locate and appraise critically relevant published literature and extract pertinent information from such sources.

Be able to define and develop strategies for solving problems.

Be able to analyse a range of data derived experimentally, or from the literature or databanks, and evaluate it critically supported by logical and structured argument.

Other skills relevant to employability and personal development

Be able to write using an appropriate scientific style.

Be able to work as a useful contributor to a group or independently.

Be able to use IT effectively for information retrieval, analysis, communication and presentation.

Be able to communicate effectively to transmit ideas and conclusions.

Be able to demonstrate planning, time management; work to deadlines carry out independent learning, including undertaking career planning and development.

1.2 Course Team

Below is a list of members of academic staff who will be teaching you during your time at UCLan.

Name	E-mail address	Subject area	Room number	Telephone extension number
Pete Abel	pabel@uclan.ac.uk	Haematology – Course Leader for Healthcare Sciences	MB107a	5828
Jane Alder	jealder@uclan.ac.uk	Physiology	MB241	3915
Tony Ashton	acashton@uclan.ac.uk	Physiology – Course Leader for Physiology and Pharmacology	MB137	3509
Victorio Bambini-Junior	vbambini-junior@uclan.ac.uk	Bioscience	MB241	6483
Steve Beeton	sbeeton@uclan.ac.uk	Microbiology	MB032	3592
Vassillios Beglopoulos		Pharmacology/neuroscience	MB138	
Darrell Brooks	dbrooks@uclan.ac.uk	Bioscience	MB064	3919
Dave Griffiths	dgriffiths2@uclan.ac.uk	Cellular Pathology	MB107a	5830

Vicky Jones	vcjones@uclan.ac.uk	Molecular Biology	MB024	5833
Clare Lawrence	cllawrence@uclan.ac.uk	Molecular Biology	MB139	5809
Lorenzo More		Pharmacology/neuro science	MB240	
Mary Phillips-Jones	mphillips-jones@uclan.ac.uk	Microbiology	MB026	5831
Lisa Shaw	lshaw1@uclan.ac.uk	Immunology	MB241	5829
Leroy Shervington	lashervington@uclan.ac.uk	Chemistry	MB061	3519
Chris Smith	cgssmith@uclan.ac.uk	Pharmacology	MB139	5845
Gail Welsby	gwelsby@uclan.ac.uk	Molecular Biology	MB107a	3501

One of the above members of staff will be your Academic Advisor during your time as an undergraduate student. Please ensure that you arrange regular meetings with him/her to discuss your progress with your studies.

1.3 Expertise of staff

As you might expect Biomedical Science covers a wide range of specialisms within the broader field of biosciences. As you progress through your course you will come to appreciate that staff are quite often specialist in a chosen but quite narrow of bioscience. It is quite likely that they will have undertaken a considerable period of research in their particular area and may well have a significant record of publication in terms of the research that they have undertaken.

In the first year this may not be particularly apparent as many of the modules that you experience (for example essential skills) are quite wide in terms of their subject content. However, as you progress through to the second and final year of your course you will soon begin to align certain staff with particular areas of your study. This will become particularly clear when you undertake your final year honours project. Staff will tend to offer projects that are related to their area(s) of specialism.

.4 Academic Advisor

You will be assigned an Academic Advisor who will provide additional academic 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, including developing skills in self-awareness, reflection and action planning.

It is well worthwhile noting the name of your academic advisor in the space below, so that you know who to contact.

My Academic Advisor is Room



1.5 Administration details

Campus Administration Services (CAS) 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 Foster Hub deals with the Bioscience courses and can provide general assistance and advice regarding specific processes such as checking and correcting academic records, extenuating circumstances and absences.

Foster Building

Forensic and Applied Social Sciences
Pharmacy and Biomedical Sciences
Psychology
Physical Sciences
telephone: 01772 891990 or 01772 891991
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.

Please ensure that your contact details are up to date (UCLan e-mail address and mobile contact number) as these are the main channels of communication that staff will use. Please remember to check your UCLan e-mails regularly so that you are aware of any last minute changes to your teaching schedule.

1.7 External Examiner

The University has appointed an External Examiner for 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. 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 may also choose to visit the university on a number of occasions throughout the academic year and may wish to meet with students to obtain their views on how the course is running.



2. Structure of the course

2.1 Overall structure

The module codes, titles and sizes are indicated in Table 1, whilst the order in which these modules fit into the scheme of the degree programme is illustrated in Figure 1. It is expected that, as a full time student, you will take three years to complete the course and you will take all the modules below in the academic year in which they are normally delivered.

In order to graduate with a BSc (Hons) degree in Biomedical Sciences you will need to complete a total of 360 credits during three years of full time study. As this course has been accredited by the professional body for Biomedical Science there is no flexibility in your programme of study during years two and three.

There is a foundation entry route available for this award. Please refer to the programme specification in appendix 8.1 for further details.

2.2 Modules Available

TABLE 1: A summary list of all the modules in the BSc (Hons) Biomedical Science degree course.

Module Code	Module Title	Module size (credits)
YEAR 1		
BL1011	Fundamentals of Biosciences	60
BL1012	Essential Skills in Biosciences	40
BL1013	Biosciences in Practice	20
YEAR 2		
BL2011	Bioscience Practical Skills	60
BL2012	Biology of Disease	20
BL2013	Molecules to Cells	20
BL2014	Tissues to Organisms	20
BL2017	Placement (optional)	120
YEAR 3		
BL3011	Research Project	40
BL3012	Blood Sciences	40
BL3016	Infection Sciences	20
BL3017	Molecular and Cellular Pathology	20

Further information about the above modules can be found on Blackboard and also in the section on Module Currency (below). You will need to read this information as you start each module.

All the modules of your programme are compulsory and must be studied and passed to achieve an honours degree in Biomedical Science.

Figure 1: Scheme of degree programme

YEAR 1

S E M 1	Fundamentals in Biosciences 60 credits	Essential Skills in Biosciences 40 credits	Biosciences in Practice 20 credits
S E M 2			

YEAR 2

S E M 1	Bioscience Practical Skills 60 credits	Biology of Disease 20 credits	Molecules to Cells 20 credits	Tissues to Organisms 20 credits
S E M 2				

YEAR 3

S E M 1	Research project 40 credits	Blood Sciences 40 credits	Infection Sciences 20 credits	Molecular and Cellular Pathology 20 credits
S E M 2				

Module currency

Throughout your programme of study, as a full time student, you will be required to take a total of six modules per year giving eighteen modules in total at the end of three years. Module sizes are presented as either standard, double or triple modules giving 20, 40 or 60 credits per module as a result.

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 double or triple modules with credit allocated up to a maximum of 60 credits per module.

Level 4 Modules.

Modules at Stage 1 (Level 4) are designed to introduce you to the basic concepts of biochemistry, microbiology and physiology and also to provide the necessary chemical and mathematical background to support these areas.

The module fundamentals of biosciences aims to provide an introduction to basic human physiological function including the functioning of the major organ systems of the human body and the processes by which they are controlled and regulated. In addition, you will also study the structure and function of biomolecules, energy generation and utilisation, genetics, microbiology and pharmacology. Importantly the above will be introduced in both theoretical and practical forms so that you will gain a sound understanding of how the systems operate and how they can be investigated experimentally. Biosciences in practice will introduce the professional roles associated with the biosciences and provide information about employability in these fields.

As part of the School's commitment to transferable skills, you will study the essential skills module to improve your skills in numeracy, scientific writing and IT. This module will also cover aspects of biological chemistry and foundation mathematics to ensure that you will have the appropriate chemical, mathematical and statistical skills to explore and understand the above material and also establish a base for more in-depth study in subsequent years. This module will also cover employability skills such as CV writing and reflective practice and wider issues in biosciences such as ethical considerations.

Level 5 modules

Level 5 modules are designed to build upon the Level 4 modules, develop understanding of the subject areas covered, develop analytical and critical skills, and provide the core knowledge from which the Level 6 modules are developed. Bioscience practical skills extends your practical awareness of methods that can be used in the diagnosis and treatment of a range of disease states and examines the principles and practices of histological, immunological and microbiological methods that can be brought to bear on a range of health problems. Molecules to cells provides essential biochemistry and molecular biology, building on the themes developed in fundamentals of biosciences. Bioscience practical skills extends your practical awareness of methods that can be used in the

diagnosis and treatment of a range of disease states and examines the principles and practices of histological, immunological and microbiological methods that can be brought to bear on a range of health problems. Biology of Disease is designed to show the various techniques that can be used to help diagnose diseases, and is thus cross-disciplinary in nature. Tissues to organisms adopts a practical and theoretical approach to exploring further the working of the main organ systems of the human body. This material also extends upon the material covered in fundamentals of biosciences during Year 1.

Level 6 modules

The level 6 modules are designed to cover the various specialised areas into which biomedical science is divided. These modules provide an in-depth study in areas where you can apply the knowledge, understanding and skills gained at level 5, and especially to develop your ability to integrate and rearrange knowledge, and to develop skills of problem definition and solving, experimental design, analysis and interpretation of data, self-management and independent learning. Accordingly, a variety of skills will be developed in these modules.

In Year 3 there are a number of specialist modules in the areas of cellular and molecular pathology, infection science and blood science that focus on developments in these areas and how they can inform the investigation and treatment of a range of disease conditions. These modules will link to and expand much of the material introduced in Year 2.

The Research Project is a lab-based practical research project, which is seen as an important component of the programme as it enables you to achieve many of the higher level aims in a more easily demonstrated way, and encourages self-management and independent learning. To graduate with an honours degree you must pass the Research Project double module.

The course is accredited by the Institute of Biomedical Science (IBMS) and, as a result, you are eligible for an e-student subscription to the IBMS for a year during the final year of your studies.

Useful Weblinks: Please see www.ibms.org for further information on Biomedical Science. This website contains a substantial amount of very useful information including details of the benefits of becoming a member of this organisation and careers information. It also provides many useful educational resources.



2.3 Course requirements

The BSc (Hons) Biomedical Science course at UCLan is accredited by the professional body for biomedical sciences, the Institute of Biomedical Science (IBMS).

As a student undertaking this course, you are bound by the Code of Conduct as specified by

The Institute of Biomedical Science and subject to the UCLan procedure for the consideration of Fitness to Practise.

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.

The biomedical science course has little flexibility in terms of what you can study since it is accredited by the subject professional body (The IBMS) and they have worked closely with your course team to determine the degree syllabus. As there isn't any flexibility in module choice your pattern of study is that shown in Table 1 and Figure 1 (above).

2.4 Study Time

2.4.1 Weekly timetable

A timetable will be available once you have enrolled on the programme, through the student portal.

2.4.2 Expected hours of study

20 credits is a standard module size and equals 200 notional learning hours.

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.

Normally you will have face to face contact with a member of academic staff for, typically, 15-18 hours a week. This contact will be in the form of e.g. lectures, practicals, tutorials and workshops. The specific number of hours may change during the academic year as the modules that you take also change. The on-line timetable will have details of all the modules that you are taking in one particular academic year and can be accessed either on or off campus. As a general rule, it is expected that you will study for double the above number of hours in terms of reading around the topics that you have covered, preparation for assessments and when you undertake revision for examinations. For specific information please see the section below on the learning agreement for each module.

All modules have a Module Handbook and this will provide you with details of the assessment timetable. The Module Handbooks can be accessed via Blackboard for each module.

Each module that you take as a part of your course has, as an integral part of the module, a learning agreement that sets out how the material in the module will be delivered and details of the time that should be spent on various learning activities. You will receive information on this from the various modules tutors at the beginning of each new period of study.



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: The Foster Hub (see section 1.5 for contact details).

The Guidance Support Coordinators will work with the Academic Advisers and be based in the Central Administration Services (CAS) Hub, and in particular

- a) respond positively to requests from tutees for assistance in understanding School or University procedures, and engage in personal advocacy to support students. Assist returning students with advice and guidance and provide knowledge of the new support available by the university hubs.
- b) refer students to the University's central support services as necessary
- c) keep a record of each meeting or significant contact with tutees
- d) have regular meetings with academic advisors or anyone the Head of School deems appropriate to support the students
- e) monitor student attendance through SAM, keeping a record of withdrawals and exit interviews, alerting appropriate individuals in the schools of any student attendance issues; dealing with stage 1 and stage 2 unfit to study processes

Our School has a set of procedures to support students in times of difficulty. One of the early indicators that a student may be having difficulty with his/her course is non-attendance. We, as academic staff, recognize the strong link between attendance at learning sessions and academic success. Attendance at all sessions will be monitored and if it is felt that you are not maximizing your chances of success then it is likely that your academic advisor will contact you with a view to arranging a meeting to discuss any issues that you might be having.

3. Approaches to teaching and learning

3.1 Expertise of staff

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

3.2 Learning and teaching methods

All School courses require you to study 6 full modules (or an equivalent made up of standard, double and triple modules) in each of the three years of your course. Each full module is given a rating of "20 credits" and corresponds to approximately 200 hours (10 hours per credit) of learning time and related activities undertaken as a part of the engagement with each module.

You should note that you will need to pass all 18 modules in order to gain a BSc Honours degree. Under exceptional circumstances, the Assessment Board does have the discretion to compensate poor performance in a limited number of modules depending on the year of study.

Throughout your course individual pieces of coursework and examinations will be marked as percentages. At the end of each semester these marks will be used to generate overall module marks, which will appear on your profile and transcript. At the end of your course these module marks will be used to calculate an Average Percentage Mark or APM which will be used to determine your degree classification.

You should note that, whilst you must pass the first year in order to proceed to the second year of your course, the actual module marks do not count towards your overall degree classification. However, having said this, experience has shown us that students who do

well in the first year have a strong foundation to go on and to perform well in subsequent years.

The School's strategy in all of its courses is to promote deep and active learning and to achieve an appropriate balance between the accumulation of subject specific knowledge, the understanding of subject-specific concepts, the application of these. The development of transferable skills is encouraged within all modules, with increased emphasis on independent and group work as you progress from Level 4 to Level 6. Personal development planning (PDP) and employability is encouraged throughout the course and via the personal tutor system, together with specific sessions related to career planning.

The School encourages learning using a range of teaching methods to accommodate the range of preferred learning styles of the students.

- Lectures are used to introduce you to new areas, define the scope of topics, communicate information, and explain concepts.
- Tutorials are used to develop skills or encourage learning through the application of the concepts covered in lectures.
- Seminars are used to develop communication skills, literature searching, and analysis and evaluation.
- Practical sessions are employed to provide demonstrations of theory and practice and to develop practical skills. You will frequently use 'state of the art' scientific equipment that is in regular use in a range of biomedical science laboratories as part of your practicals.
- Group exercises are effective in developing a range of skills, including communication and working with others.
- Problem-based learning is being used in an increasing number of modules to promote your active participation in determining what you need to learn.
- The final-year project, undertaken by all students, is a substantial piece of work that encourages independence and self-management.
- Blackboard is being used on all modules to provide a framework for the organisation of module materials, and to support your learning.
- In line with the School ethos of developing you as an independent learner, at Level 4, practicals tend to be completely directed, whilst at Level 5, and particularly at Level 6, practical exercises may be more open-ended to allow the development of independence, group working and problem solving skills.

You will have an IT induction session during your first week. The University and other Schools offer a range of IT-based electives for you to develop these important skills, and the Library Helpdesk is able to offer personal support to resolve IT-related problems. Basic IT skills (word-processing, use of email, use of library databases and simple statistical analysis) are developed during Level 4 modules. From Level 4 semester 2, all reports are expected to be submitted in a word-processed form. Further development of IT skills at Level 5 takes place as described below. The School subscribes to a number of electronic journals, textbooks and on-line services, and you are strongly encouraged to utilise these as part of your studies. Students are encouraged to use IT in a variety of ways including email communication and the accessing of important materials on the School's web site or various Blackboard folders.

The School has developed a largely common set of first year modules for all "Bioscience" courses. This is a deliberate choice on our part since it allows us to ensure that all our students benefit from the available resources and it also may allow students to transfer between some of the bioscience courses at the end of the first year.

By the end of Level 4 you will have begun to develop an understanding of the key concepts relevant to Biomedical Science and will have initiated the development of a wide range of relevant skills such as scientific communication, problem solving, data analysis and presentation. To achieve this, factual information is delivered through lectures, supported by prepared material, and the provision of lecture notes in electronic form via Blackboard. Learning and writing skills are reinforced through the use of regularly set 'short-notes' assignments; these are focused on the subject matter of the relevant modules, and provide an opportunity for staff to give specific feedback on writing skills. The skills modules also focus on the development of teamwork, planning, understanding accuracy and variability, and the generation of scientific hypotheses. All students are able to word-process, use e-mail, and access the University network, as demonstrated by coursework. Effective time-management is encouraged through tutorial exercises.

Modules at Level 5 and 6 are still delivered by a mixture of teaching methods, but with an increased emphasis on input from the student. Class sessions are used more widely for problem-solving and group work. A range of other skills are developed, e.g. oral skills through discussions and oral presentations. Modules use teaching aids as deemed appropriate by the module teams. These may include videos, e.g. showing an experimental technique; CAL packages; and printed material for problems, data manipulation and interpretation and case studies.

Within Biomedical Science, skills in carrying out practical work are fostered through laboratory classes with workbook or practical manuals, with safe working practices described. In addition to the above, you will also be asked to write laboratory reports and interpret other data. This approach is important in developing the skills necessary to undertake the final year project.

Throughout your course you will have the opportunity of developing a range of practical competencies based in the area of laboratory skills. These are key employment skills and are important in ensuring that you can work accurately and efficiently when dealing with biological samples.

Students studying Bioscience undergraduate courses will study essential skills in which statistical and IT skills are developed. Such modules equip you with the necessary analytical and presentational skills to carry out Level 6 work and, in particular, the Honours Project.

The School offers a variety of opportunities for placement learning across our degree schemes. For Biomedical Science the main opportunity is to undertake one of the summer internships that take place over the summer period between the academic years of your course.

The Level 6 modules are designed to provide in-depth study in selected areas. By the end of the course it is expected that you will have developed the appropriate skills to undertake independent study; be able to demonstrate higher level cognitive skills such as evaluating information, and developing clear and consistent arguments; be able to plan, design and undertake investigative work; be able to work effectively as part of a group; to apply theory/knowledge to new situations; formulate and test hypotheses by designing experiments and applying practical techniques; analyse and evaluate data supported by logical and structured argument; and define and develop strategies for solving problems.

At each level you are expected to spend a significant amount of time in private study. At level 4 this is typically 15-20 hours per week, and reading is mainly of set texts. By level 6 as class contact time is reduced, more private study time is expected, with reading of reviews and the primary literature, some being suggested by academic staff and some found by you using the resources that are available to you through using the library.

Communication is developed through discussions and presentations; numeracy and statistics via practical work; IT through coursework; and teamwork through class work in problem-based learning, tutorials, case studies, and problem-solving. Generally class sizes are smaller for Level 6 modules, providing the opportunity for more of a 'seminar' type of approach. There is an increasing expectation that material should be prepared in advance of sessions for discussion/presentation.

The final-year research project at Levels 6 allows you particularly to develop and demonstrate your self-organisation and planning.

3.3 Study skills

During the induction process and beyond you will be introduced to a range of support services that will assist in the development of your study skills. As an introduction to what is available please see the following link WISER

<http://www.uclan.ac.uk/students/study/wiser/index.php>



3.4 Learning resources

3.4.1 Learning Information Services (LIS)

LIS is the central repository of many of the academic systems for the university. As a practising scientist you will need access to material that will be invaluable in placing what you study in a wider context. As you progress through your study you will be required to engage with some of the material in a much deeper way but you will receive support from academic staff to allow you to do so.

3.4.2 Electronic Resources

LIS provide access to a considerable range of electronic resources, for example e-journals and databases, e-books and images are available. In addition, the modules that form your course also have suggested e-reading lists associated with them. Further details can be found in individual module booklets via Blackboard.

There is also an on-line timetable that shows you an individual timetable for the modules that you are taking. You are advised to consult the timetable at the beginning of each week so that you can plan your study periods around organised teaching activities.

Much of the material that you will require to engage with the individual modules that you are taking can be found on ELearn (Blackboard). Here you can access module booklets and lecture notes. You will also be required to submit aspects of your course work on-line through the plagiarism checker Turnitin.

3.5 Personal development planning

The School's PDP programme is based around core modules and assessments rather than stand-alone modules. You are introduced to the idea of PDP and career planning through

sessions in induction week, including a talk from a careers advisor or employer and meetings with your personal tutor. Reflection and self-assessment on your achievements and goal setting is supported by linking selected coursework to the reflection process. The course team has identified the coursework to be included in the scheme so that it covers a wide range of skills. In years 1 and 2, coursework will be used as the basis for reflection. You are asked to reflect (and record your reflections) on these pieces of work both before submission and after obtaining the mark and feedback. You will have meetings with your academic advisor, who is responsible for discussing the reflection and notifying the module tutors that it has occurred. Reflection is encouraged by assessing its occurrence by modifying coursework marks.

Both formative (where the marks do not contribute to the final grade) and summative (where the marks do form part of the final grade) assessments are used in your course. Individual module tutors will provide further details in specific modules.

You are advised to keep a progress file containing the reflections and examples of work. You are responsible for ensuring that any relevant information is included in the progress file. It is also advantageous to file returned course work so that you have a readily accessible record of the work that you have completed and the grades that you have obtained. You should also use the feedback on your coursework to inform and improve future submissions.

In the 3rd year, you will be required to produce a reflective diary and this will be associated with the research project. The reflective diary will be marked on a pass/fail basis.



3.6 Preparing for your career

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 at every level. 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 should aim to record your achievements during your time as an undergraduate student. You might like to use a career tool such as Pebblepad or Careers Hub as a means to do this.

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 09.00am-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



4.1 Academic Advisors

You will be assigned an Academic Advisor during Induction Week. The Academic Advisor will generally be a member of Academic Staff who has a good understanding of your course (and most probably who teaches a significant amount of the material on your course).

The role of the Academic Advisor is to meet regularly with you and to provide a focal point for academic development, to provide individual feedback on progress, to identify areas needing improvement and discuss strategies for achieving this and to monitor attendance and progress through the course.

The Academic Advisor also gives guidance to students following Assessment Boards. In addition, Academic Advisors should provide personal support, taking account of current problems in the student's life and be available for informal appointments through email or requests via availability sheets posted on staff doors to provide flexible access. Students are also supported by the Course Leader.

The School expects undergraduate students to have at least six meetings with the Academic Advisor during Year 1, with at least three of these being 'one to one' meetings. In subsequent years, there will be at least three contacts in Year 2 and 2 during your final year. You are, of course, at liberty to seek extra meetings with your personal tutor outside of the appointments.

When appropriate, your Academic Advisor may well refer you to specialized central University support e.g. WISER for further help and support.

The School of Pharmacy and Biomedical Sciences also utilises year tutors. Further information on their roles and how they can be contacted will be made available to you after the start of the academic year.

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.

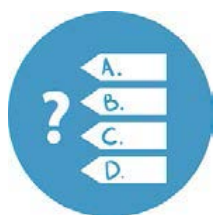
Arrangements are made for students who have a disability/learning difficulty for which valid supporting evidence can be made available. Contact the Disability Adviser for advice and information, disability@uclan.ac.uk

In our School, Dr Lisa Shaw is the point of contact for students with disability. Lisa's office is MB241 in Maudland building, email lshaw1@uclan.ac.uk or phone 01772 895829.

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/>



5.1 Assessment Strategy

The School recognises the main purposes of assessment as the diagnosis of strengths and weaknesses; encouragement to be involved in determining your own performance; and testing the achievement of the learning outcomes. Assessment is continuous and comprises formative and summative methods. Formative assessment encourages the development of personal self-awareness and self-evaluation such that corrective change can be instigated by the individual. This formative feedback is central to the development of the student from a dependent to independent worker which is at the heart of the programme philosophy. Formative assessment is not used in all modules and, where it is used, the nature of the assessment may vary. In some there are short tests or essays, in others there is informal feedback via activities such as tutorials or discussion of experiment results during laboratory sessions.

The summative assessment strategy in each module is designed to best test the achievement of the module learning outcomes. A range of assessment methods are utilised including short-note writing, essays, laboratory notebooks, practical exercises, data interpretation, problem solving, practical reports, presentations and examinations. Some of the above are on a group basis, and in this case there is an element of peer assessment. The examination formats change from Year 1, where multiple choice and shorter questions are used, to Year 2 and beyond where longer, more evaluative, questions and problem solving exercises are utilised.

Thus assessments are extremely important and you should devote sufficient time to each one and plan your work accordingly.

5.2 Notification of assignments and examination arrangements

Precise details of the timing and nature of individual assignments will be made available within individual Module Booklets, provided at the beginning of each semester via Blackboard. At the discretion of the Module Tutor this information may be supplemented with additional detail (including the assessment criteria – if not available in module booklet) which will be given out during taught classes when the individual assignments are set, and well in advance of the submission date.

5.3 Referencing

It is normal School policy to use the Harvard style of referencing. Below are a few examples, you will be given more guidance in your modules.

There will be times when you wish to cite authors in the text of your work, for example:

A single author: The importance of gap junctions in cardiac and smooth muscle physiology is well known (Sperelakis, 2003).

Two authors: The importance of gap junctions in cardiac and smooth muscle physiology is well known (Xiong and Sperelakis, 1995).

Three or more authors: The importance of gap junctions in cardiac and smooth muscle physiology is well known (Sperelakis *et al.*, 2012).

Once you have cited them in the main body of your essay or practical report then you must cite them in a correctly formatted reference list at the end of your work. For example:

Chiou, Y-L. (2012) The supplementation of Zinc increased the apoptosis of airway smooth muscle cells by increasing p38 phosphorylation. *Environmental Toxicology and Pharmacology* **33** (1) 70-77

The above example is a fairly standard method of providing the essential information for someone to look up the reference that you have used. All the necessary information (author name, date of publication, title of the paper, journal title, volume and part number and pages details) are clearly provided. If, when preparing for an essay, you came across a very interesting article cited in a research paper but the author hadn't provided a full reference citation then it could be very frustrating not to be able to find the original article to read!

The form of the citation may change depending on the style of printing that is used by the scientific journal that you are reading. You will be given the opportunity by a number of academic staff of experiencing a range of styles when you prepare work for assessment.

5.4 Confidential material

You may occasionally come across material of a confidential nature whilst on your course. You should be aware that there are ethical and legal guidelines that require you to respect the nature of the material and to maintain the anonymity of the individuals or organisations concerned.

5.5 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 are required to sign a declaration indicating that individual work submitted for an assessment is your own.

If you attempt to influence the standard of the award you obtain through cheating, plagiarism or collusion, it will be considered as a serious academic and disciplinary offence as described within the [Academic Regulations](#): G7 and the [Assessment Handbook](#) .

Cheating is any deliberate attempt to deceive and covers a range of offences described in the [Assessment Handbook](#).

Plagiarism describes copying from the works of another person without suitably attributing the published or unpublished works of others. This means that all quotes, ideas, opinions, music and images should be acknowledged and referenced within your assignments.

Collusion is an attempt to deceive the examiners by disguising the true authorship of an assignment by copying, or imitating in close detail another student's work - this includes with the other student's consent and also when 2 or more students divide the elements of an assignment amongst themselves and copy one another's answers. It does not include the normal situation in which you learn from your peers and share ideas, as this generates the knowledge and understanding necessary for each individual to independently undertake an assignment; nor should it be confused with group work on an assignment which is specifically authorised in the assignment brief.

Re-presentation is an attempt to gain credit twice for the same piece of work.

You will be given more guidance within certain modules during Year 1 and Year 2. To help staff detect plagiarism we use Turnitin software. You will be required to upload your word-processed work, for example an essay or a case study onto Turnitin, which is available on each module via Blackboard. This will produce a report sheet that determines the level of similarity (hopefully very low) with material already on the data base. Staff will look at this report to help decide if plagiarism has taken place.

In **Year 1** we tend to take a more lenient view of plagiarism and we call it 'poor academic practice'. If a member of staff believes that you may have plagiarised you will be invited to discuss the situation. This will be to show you where you may have gone wrong to help you in the future but we will not invoke the University regulations on plagiarism. However, if a further issue of plagiarism occurs then the University regulations will apply, as described above.

The term 'poor academic practice' constitutes 2 possibilities:

Where a student has copied word for word or made a minimal attempt to re-word information from a written source eg internet or book etc. without including a reference to the original source. In this case the student will be instructed to re-submit the assessment for a capped assessment mark of 40%.

Where a student has copied word for word or made a minimal attempt to re-word information from a written source eg internet or book etc. but has included a reference to the original source. In this case the marker may decide that there is insufficient evidence that the student understands the area and thus a mark cannot be given. In this case the student will be instructed to re-submit the assessment for a capped assessment mark of 40%.

During induction week you will be given tutorial(s) on how to use Turnitin.

The process of investigation and penalties which will be applied can be reviewed in the [Assessment Handbook](#), section 5. If an allegation is found to be proven then the appropriate penalty will be implemented:

In the case of a single offence of cheating, plagiarism, collusion or re-presentation:

the penalty will be 0% for the element of assessment, and an overall fail for the module.

the plagiarised element of assessment must be resubmitted to the required standard and the mark for the module following resubmission will be restricted to the minimum pass mark (ie 40% for levels 4, 5 and 6 work, 50% for level 7 work).

when it is detected for the first time on a resubmission for an already failed module, no further resubmission for the module will be permitted, and the appropriate fail grade will be awarded.

In the event of a repeat offence of cheating, plagiarism, collusion or re-presentation (irrespective of whether the repeat offence involves the same form of unfair means) on the same or any other module within the course:

the appropriate penalty will be 0% for the module with no opportunity for re-assessment. This penalty does not preclude you being able to retake the module in a subsequent year.

The penalties will apply if you transfer from one UCLan course to another during your period of study and module credits gained on the former course are transferred to the current course.

Contact the [Students' Union Advice and Representation Centre](#) by emailing: suadvice@uclan.ac.uk for support and guidance.

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.

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, some of these are formal and some are informal. We aim to respond to your feedback and let you know of our plans for

improvement. For example, if a module team are considering changing the way in which a module is assessed or delivered then you might have already received an e-mail alerting you to this fact and asking for your agreement or further comments.

At the end of each academic year we review all our modules. During this process we take into account student views, which are discussed at Staff Student Liaison Committee (SSLC) meetings (see section 7.2 and 7.3). Following the discussions at Module Review, we may decide, for example to alter the number and/or type of module coursework assessments. Alternatively we may choose to leave the module as it is for the next academic year.

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 requesting that you complete the National Student Survey (during semester 2 for students in their final year of study) or the UCLan Student Survey (during semester 1 for 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. They 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), and members of Students' Council 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.

Quite early on during your time with us you will be asked to elect a number of Course Representatives. These are fellow students who will meet regularly with academic staff to voice the opinions of the student body in terms of how well you feel that your course is progressing. This is the forum to feedback when things go well and also if you feel that things are not progressing as smoothly as you would like. The SU will co-ordinate the elections

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.

Your Course Leader will facilitate the meetings using [guidelines](#) and provide a record of the meeting 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, personal tutoring arrangements and The Card;

Other aspects of University life relevant to student experience e.g. learning resources, IT, library;

Any other issues raised by students or staff.

As mentioned above (Section 7.1) the Course Representatives for Year 1 are elected each academic year and they normally continue through in each subsequent academic year. The process is co-ordinated by the Students Union and will be explained to you in the early part of the first academic semester.

8. Appendices

8.1 Programme Specification(s)

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.

1. Awarding Institution / Body	University of Central Lancashire
2. Teaching Institution	University of Central Lancashire
3. University Department/Centre	School of Pharmacy and Biomedical Sciences
4. External Accreditation	Institute of Biomedical Science
5. Title of Final Award	BSc (Hons) Biomedical Science
6. Modes of Attendance offered	Full time Sandwich
7a. UCAS Code	B940
7b. JACS Code	C100
8. Relevant Subject Benchmarking Group(s)	Biomedical Science and Biosciences
9. Other external influences	Institute of Biomedical Science
10 Date of production/revision of this form	Jan 2018

10. Aims of the Programme
<ul style="list-style-type: none"> To develop a knowledge and understanding of human biology and disease based on a scientific foundation, with the ability to apply knowledge and analyse and evaluate information.
<ul style="list-style-type: none"> To instil an appreciation of the study of biomedical science and its importance and application in different contexts.
<ul style="list-style-type: none"> To involve the learner in a 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 develop competence in the definition, implementation and monitoring of plans for self-development.
<ul style="list-style-type: none"> To prepare the learner for a career in bioscience in positions requiring knowledge of human biology in relation to health and disease.
11. Learning Outcomes, Teaching, Learning and Assessment Methods
A. Knowledge and Understanding
<p>A1. Be able to explain and critically discuss the principles of biomedical science and the underlying biological components, including those related to disease. This will include some elements where the uncertainty, ambiguity and the limits of knowledge within the discipline are exemplified.</p> <p>A2. Be able to apply and evaluate appropriate methods of biomedical science relevant to practical problems.</p> <p>A3. Be able to discuss and appraise the areas of study covered within biomedical science, and discuss associated ethical issues.</p> <p>A4. Be able to apply an appropriate statistical test to analyse data that will be produced from various types of study and be able to use those tests.</p>
Teaching and Learning Methods
A range of teaching and learning methods will be used including lectures, practicals, IT, laboratory sessions, tutorials, presentations, reading, problem solving exercises, case studies, discussions and reflection.
Assessment methods
Students will demonstrate their knowledge and understanding through a combination of workbooks; short notes; essays; reports of various types e.g. practical reports, summaries, data analysis; group and individual presentations; end of module examinations. The final module mark is based on a weighted aggregate of all assignments in that module.
B. Subject-specific skills
<p>B1. Be able to describe and evaluate methods used in biomedical science.</p> <p>B2. Be able to make use of appropriate laboratory equipment to enable a biological study to be undertaken.</p> <p>B3. Be able to apply specialist knowledge of biomedical science to investigations and to new situations e.g. formulation of a hypothesis and designing experiments.</p> <p>B4. Be able to design, perform and interpret the results of experiments investigating biological systems.</p> <p>B5. Be able to discuss the safety aspects to be considered when undertaking laboratory based investigations and to work safely within a laboratory environment.</p>
Teaching and Learning Methods
A range of teaching and learning methods will be used including data interpretation exercises; laboratory practical work, using workbooks or laboratory manuals and the production of appropriate written and/or oral material based on the work. Write laboratory reports. Safe working practices are included in all laboratory investigations, but particularly when designing experiments and in the final year research project. Material will also be explored in lectures,

seminars and workshops which will allow students the opportunity to discuss bioscience-based information and place it in a wider scientific context.

All students will be able to access their course-related material (course and module information, lecture notes and assessment information) via the Blackboard digital platform.

Assessment methods

Students will demonstrate their knowledge and understanding through a combination of laboratory competencies; laboratory notebooks; workbooks; presentations; examinations; essays; reports of various types e.g. practical reports, data analysis; case studies and a research project report. The final module mark is based on a weighted aggregate of all assignments in that module.

C. Thinking Skills

C1. Be able to locate and appraise critically relevant published literature and extract pertinent information from such sources.

C2. Be able to define and develop strategies for solving problems.

C3. Be able to analyse a range of data derived experimentally, or from the literature or databanks, and evaluate it critically supported by logical and structured argument.

Teaching and Learning Methods

A range of teaching and learning methods will be used including lectures; practical work, data interpretation exercises; problem based learning (PBL) exercises; case studies; 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

Students will demonstrate their knowledge and understanding through a combination of workbooks; short notes; essays; presentations; examinations; reports of various types e.g. practical reports, summaries, data analysis and a final year research project. The final module mark is based on a weighted aggregate of all assignments in that module.

D. Other skills relevant to employability and personal development

D1. Be able to write using an appropriate scientific style.

D2. Be able to work as a useful contributor to a group or independently.

D3. Be able to use IT effectively for information retrieval, analysis, communication and presentation.

D4. Be able to communicate effectively to transmit ideas and conclusions.

D5. Be able to demonstrate planning, time management; work to deadlines carry out independent learning, including undertaking career planning and development.

Teaching and Learning Methods

Coursework is generally submitted electronically; 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 the library and literature searching; presentations; practical work incorporating numeracy and statistics; teamwork through seminars, case studies, practicals and problem solving activities. Students are given guidance on the development of skills via the academic advisor system.

Assessment methods

Students will demonstrate their knowledge and understanding through a combination of written reports, presentations; laboratory notebooks; group and individual work; data analysis and presentation and a final year research project report. The final module mark is based on a weighted aggregate of all assignments in that module.

13. Programme Structures*				14. Awards and Credits*
Level	Module Code	Module Title	Credit rating	
Level 6	BL3017	Molecular and Cellular Pathology	20	<p>BSc (Hons) Biomedical Science Requires 360 credits, including a minimum of 220 at Level 5 or above, and including 100 at Level 6.</p> <p>BSc Biomedical Science Requires 320 credits including a minimum of 180 at Level 5 or above, and including 60 at Level 6.</p> <p>Students who also successfully complete module BL2017 will receive the award with 'Placement'</p>
	BL3016	Infection Sciences for Biomedical Sciences	20	
	BL3012	Blood Sciences for Biomedical Sciences	40	
	BL3011	Research Project	40	
Level 5*	BL2017	Placement year	120 (optional)	
Level 5	BL2012	Biology of Disease	20	<p>Dip HE Biomedical Science Requires 240 credits including a minimum of 100 at Level 5 or above.</p>
	BL2013	Molecules to Cells	20	
	BL2014	Tissues to Organisms	20	
	BL2011	Bioscience Practical Skills	60	
Level 4	BL1013	Biosciences in Practice	20	<p>Cert HE Requires 120 credits at Level 4 or above</p>
	BL1012	Essential Skills in Biosciences	40	
	BL1011	Fundamentals of Biosciences	60	
Level 3*	FZC005	Skills for science	20	<p>Foundation entry Students who exit after the Foundation Entry year will receive a transcript of their modules and grades.</p>
	FZC006	Biology	20	
	FZC007	Chemistry	20	
	FZC008	Biochemistry	20	
	FZC009	Mathematics	20	
	FZC010	Physics	20	

All modules at level 6 have been designated as core modules, including the project module, and are requirements for an honours award.

*All other modules are compulsory with the exception of Level 3 foundation entry and Level 5 BL2017 optional placement module.

15. Personal Development Planning

The PDP programme is based around a number of assessments rather than stand-alone modules. Students are introduced to the idea of PDP and career planning through sessions in induction week, including meetings with their academic advisor. Reflection and self-assessment on their achievements and goal setting is supported by linking selected coursework to the reflection process. Students are asked to reflect (and record their reflections) on these pieces of work both before submission and after obtaining the mark and feedback. The students have meetings with their academic advisors who are responsible for discussing the reflection and notifying the module tutors that it has occurred. Reflection is encouraged by embedding PDP in the pass requirements of selected modules.

Students are advised to keep a progress file containing the reflections and examples of work. In the 3rd year, students are asked to supply to their project supervisor with examples of reflection showing achievement in a list of skills. Work on career development, CV writing or further study is incorporated throughout the course and via the academic advisor system.

16. Admissions criteria

112 points including Biology or Chemistry or Environmental Science or Applied Science and pass in science practical (if applicable) at A2 level and 5 GCSE passes, including maths and English at grade C or above. Other acceptable qualifications include:

- BTEC Extended Diploma (DDM)
- Scottish Certificate of Higher Education Higher Grade passes
- Irish Leaving Certificate Higher Grade
- International Baccalaureate 28P including grade HL5 in Biology or Chemistry
- Appropriate Access to HE Course 112 UCAS points including 15 level 3 credits with distinction in chemistry or biology
- Appropriate Foundation Course 60% or above

Students where English is not their first language need to demonstrate their ability in the English language through obtaining an IELTS score of 6.0 or above with no element below 5.5.

Applications from people with relevant work or life experience and/or non-standard qualifications are welcomed and will be considered on a case-by-case basis.

Entry to the optional Foundation route requires; DDD or above at A2 including Biology or Chemistry, BTEC ND DMM-DDM Access to HE, IB 25 - 27P including grade 5 in Biology or Chemistry.

Progression from level 3 Foundation Entry to level 4 year 1 is dependent on achieving an overall grade of 60%.

17. Key sources of information about the programme

- | |
|--|
| <ul style="list-style-type: none">• Outside the University – QAA subject benchmarks website (http://www.qaa.ac.uk/en/Publications/Documents/SBS-Biomedical-sciences-15.pdf),• Institute of Biomedical Science www.ibms.org• UCAS handbooks and web site (www.ucas.com) |
| <ul style="list-style-type: none">• University sources – University/School of Pharmacy and Biomedical Sciences web site http://www.uclan.ac.uk/courses/bsc_hons_biomedical_science.php ;School of Pharmacy and Biomedical Sciences brochures; University prospectus, Student Handbook. |

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 a student may be able to critically analyse something by the time that they complete the target award but at diploma level they might only be able to outline it and at certificate level list.

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:

BSc (level 6)

A1. Be able to explain and discuss the principles of biomedical science and the underlying biological components, including those related to disease. This will include some elements where the uncertainty, ambiguity and the limits of knowledge within the discipline are exemplified.

A2. Be able to apply and evaluate appropriate methods of biomedical science relevant to practical problems.

A3. Be able to discuss and appraise the areas of study covered within biomedical science, and discuss associated ethical issues.

A4. Be able to apply an appropriate statistical test to analyse data that will be produced from various types of study and be able to use those tests.

B1. Be able to describe and evaluate methods used in biomedical science.

B2. Be able to make use of appropriate laboratory equipment to enable a biological study to be undertaken.

B3. Be able to apply specialist knowledge of biomedical science to investigations e.g. formulation of a hypothesis and designing experiments.

B4. Be able to design, perform and interpret the results of experiments investigating biological systems.

B5. Be able to discuss the safety aspects to be considered when undertaking laboratory based investigations and to work safely within a laboratory environment.

C1. Be able to locate and appraise critically relevant published literature and extract pertinent information from such sources.

C2. Be able to define and use strategies for solving problems.

C3. Be able to analyse a range of data derived experimentally, or from the literature or databanks, and evaluate it supported by logical and structured argument.

D1. Be able to write using an appropriate scientific style.

D2. Be able to work as a useful contributor to a group or independently.

D3. Be able to use IT effectively for information retrieval, analysis, communication and presentation.

D4. Be able to communicate effectively to transmit ideas and conclusions.

D5. Be able to demonstrate planning, time management; work to deadlines carry out independent learning, including undertaking career planning and development.

Learning outcomes for the award of:

DipHE (level 5)

A1. Be able to explain the principles of biomedical science and the underlying biological components, including those related to disease.

A2. Be able to apply and evaluate appropriate methods of biomedical science relevant to practical problems.

A3. Be able to discuss the areas of study covered within biomedical science, and associated ethical issues.

A4. Be able to apply an appropriate statistical test to analyse data that will be produced from various types of study and be able to use those tests.

B1. Be able to describe and evaluate methods used in biomedical science.

B2. Be able to make use of appropriate laboratory equipment to enable a biological study to be undertaken.

B3. Be able to apply specialist knowledge in biomedical science investigations.

B4. Be able to design, perform and interpret the results of experiments investigating biological systems.

B5. Be able to discuss the safety aspects to be considered when undertaking laboratory based investigations and to work safely within a laboratory environment.

C1. Be able to locate and appraise relevant published literature and extract pertinent information from such sources.

C2. Be able to define strategies for solving problems.

C3. Be able to analyse a range of data derived experimentally, or from the literature or databanks, and evaluate it supported by logical and structured argument.

D1. Be able to write using an appropriate scientific style.

D2. Be able to work as a useful contributor to a group or independently.

D3. Be able to use IT effectively for information retrieval, analysis, communication and presentation.

D4. Be able to communicate effectively to transmit ideas and conclusions.

D5. Be able to demonstrate planning, time management; work to deadlines carry out independent learning, including undertaking career planning and development.

Learning outcomes for the award of:

Cert HE (level 4)

A1. Describe the principles of biomedical science and the underlying biological components, including those related to disease.

A2. Be able to use appropriate methods of biomedical science relevant to practical problems.

A3. Be able to describe the areas of study covered within biomedical science and associated ethical issues.

A4. Be able to apply a basic statistical test to analyse data.

B1. Be able to describe methods used in biomedical science.

B2. Be able to make use of appropriate laboratory equipment to enable a biological study to be undertaken.

B3. Be able to apply specialist knowledge in biomedical science investigations.

B4. Be able to perform and interpret the results of experiments investigating biological systems.

B5. Be able to identify the safety aspects to be considered when undertaking laboratory based investigations and to work safely within a laboratory environment.

C1. Be able to locate relevant published literature and extract information from such sources.

C2. Be able to identify strategies for solving problems.

C3. Be able to analyse data derived experimentally, or from the literature or databanks, and use logical and structured argument.

D1. Be able to write using an appropriate scientific style.

D2. Be able to work as a useful contributor to a group or independently.

D3. Be able to use IT effectively for information retrieval, analysis, communication and presentation.

D4. Be able to communicate effectively to transmit ideas and conclusions.

D5. Be able to demonstrate planning, time management; work to deadlines carry out independent learning, including undertaking career planning and development.