



**Course Handbook**  
**MSci Biomedical Science**

2016-17

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# Sources of Additional Information

This handbook provides useful information about your course, how it will be delivered and how you will be assessed. It does not try to give you all the information you will need during your time at the university. More information can be found in the following places:

## On-Line Student Guide

The on-line student guide (<http://www.staffs.ac.uk/student/guide>) provides important information about the university and the services available to students, including:

- Welcome Week
- Student Cards
- e:VisionStaffs Portal
- Our Student Charter
- The Staffordshire Graduate
- Term Dates
- Timetabling
- Student accommodation
- Campus and travel information
- Finance, fees and support
- Disclosure and Barring Service applications
- Visas
- Course and module enrolment
- Recognition of Prior Learning
- Changing your award or modules
- Withdrawing or intermitting from your course
- University rules and regulations
- Disciplinary matters including academic misconduct
- Appeals and complaints
- Referencing and study skills (including guidance on completing assessments)
- What to do if you can't hand in work due to circumstances beyond your control
- Examinations
- Getting feedback on your work
- The student voice
- Employability and careers
- IT services and support
- Disability and dyslexia
- Counselling
- The Nursery
- The Multi-Faith Chaplaincy
- Graduation
- Certificates, Transcripts and Verification Letters

## Module Handbooks

Your course is made up from a number of individual modules. Detailed information on each module is provided in separate module handbooks. Your module tutor will tell you how to access the handbook for their module.

## The BlackBoard On-Line Learning Environment

Information and learning materials for your modules will be provided on the BlackBoard on-line Learning Environment. BlackBoard will form an important part of your learning experience. Please let your module tutor know if you encounter any problems accessing this material.

## Welcome to the Faculty of Computing, Engineering and Sciences

The Faculty is home to three subject based Schools located on the Stoke-on-Trent campus. As well as our on-campus students we have many students who are learning away from our University campuses in Staffordshire – with many learners studying in educational partners both in and outside of the UK, work-based learners studying in their workplace and also distance learners from across the globe using the internet



to interact with their tutors and peers. Consequently, you are now a student in one of the largest such faculty in UK universities, and we are delighted that you are one of our students. The Faculty is host to one of the first UK university computing departments, to science programmes which are some of the highly rated by students in the UK, and to an engineering scheme founded upon the needs of engineering employers. Your course of study will therefore be up to date and relevant, will be serviced by well qualified staff, and will also be geared to preparing you for life and employment after university. Our Staffordshire Graduate Pledge aims to help all of our students achieve what they want to in life.

As one of our students we expect you to work hard, to set high standards for yourself. To help you to succeed you will have access to excellent staff and facilities, and also to a range of student support services to help deal with your particular needs. Of course, to do this academic, administration and technical staff that you come across as part of your studies will readily advise and support you. Your part is to take your study seriously, to ensure that you set-aside appropriate time for your study, and to make full use of the diverse range of learning opportunities – both in class and outside of classes – provided by your course. It is important to us that you are successful and that you go on to be a good ambassador for the university.

Inevitably at the start of term you will be bombarded with a host of well-intentioned information. Some of that information is immediately important to start your studies to make sure that you are in the right place at the right time. Some information you will need later in your course e.g. about assessments, changing modules, extenuating claims etc. Whilst other information is about the services the University offers generally which you may need to utilise in the future. We suggest that you download this handbook and keep it for reference and familiarise yourself with the range of information it contains. This should be the first document of your own digital-archive - get into the habit of downloading essential documents like module descriptors and module handbooks when the course starts.

You are now part of the 'family' of Computing, Engineering and Sciences and we look forward to working with you to help you to succeed as a Staffordshire Graduate.

Very best wishes,  
Professor Hastings McKenzie – Dean, Faculty of Computing, Engineering and Sciences

## 1. Welcome to your Course

On behalf of Course Team I am pleased to welcome you to Biological and Biomedical Sciences at Staffordshire University. Additionally as Award Leader for MSci Biomedical Science, I would like to welcome you to your course.

MSci Biomedical Science is a four year undergraduate degree. The first three years are the same as the BSC (Hons) Biomedical Science whilst the fourth year is an additional 120 credits at masters Level 7.

This course focuses on the biology of disease, how disease is investigated and how it is prevented and treated. We aim to develop you as a scientific practitioner and to develop your graduate skills through a focus on your active engagement in practical and workshop sessions. We place string emphasis on practical skills throughout the course. The course has several key features which includes your Level 6 research project in Biomedical Science which enables you to undertake a major piece of investigative work culminating in a professional style paper, suitable to present to prospective employers. In addition, the MSci research assistantship enables you to join an active research programme alongside PhD and full time research staff thereby contributing to the generation of scientific knowledge, publication and output.

The skills developed by this award allow you to gain employment in a wide range of life science and related industries such as biotechnology, conservation, diagnostics, pharmaceuticals, genomics, food science and related sectors, teaching, cellular technologies the veterinary and agricultural sectors as well as forensic science, science policy and regulatory affairs.

If you have any questions about any aspects of your studies or any problems please see me. Good luck in your studies.

Dr. Pauline Gowland, Award Leader

## 2. Your Course Team

Award Leaders: Dr Pauline Gowland, R115, 01782 294783,  
p.gowland@staffs.ac.uk

Dr Kevin Reiling, R113, 01782 294746,  
k.reiling@staffs.ac.uk

As the Award Leader for Biomedical Science, I am responsible for the smooth running of the award and am available to help with any general academic issues you may have. However Kevin and I share the role of Award Leaders and if I am unavailable, Kevin will be able to help.

Academic Group Leader: Dr Angela Priestman, R115, 01782 294845,  
a.priestman@staffs.ac.uk

*In addition to myself, Kevin and Angela, other Biological Sciences staff you are likely to meet during your degree are:*

<b>Academic Staff</b>	<b>Room</b>	<b>Telephone</b>	<b>Email</b>
Dr Rob Barrington	R203	294845	r.barrington@staffs.ac.uk
Dr Sue Bird	R115	294408	s.j.bird@staffs.ac.uk
Dr David Cadagan	R203	295870	david.cadagan@staffs.ac.uk
Mr Ian Davies	R203	295922	j.i.davies@staffs.ac.uk
Mr Trust Diya	R123	295870	t.diya@staffs.ac.uk
Prof. John Dover	R113	294021	j.w.dover@staffs.ac.uk
Dr Peter Gowland	R115	294581	p.c.gowland@staffs.ac.uk
Dr Paul Mitchell	R113	294572	p.mitchell@staffs.ac.uk
Dr Harry Mountain	R113	294702	h.a.mountain@staffs.ac.uk
Mr Paul Orsmond	R115	294776	p.orsmond@staffs.ac.uk
Dr Dave Skingsley	R113	295757	d.r.skingsley@staffs.ac.uk
Mrs Anne Turner	R202	295922	a.m.turner@staffs.ac.uk
Dr. Sarah Williams	R113	295829	sarah.williams@staffs.ac.uk

*Technical and support staff you are likely to meet:*

Technical Staff	Room	Area of expertise
Sue Avery	R236	Physiology
Mishele Barrigas	R218	Physiology
Liz Deakin	R236	Forensic Biology
Denise Figgins	R218	Genetics/Cell biology
Ian Hopkins	R217	Microbiology
Audra Jones	R104	Physiology
Rob Manning	R217	Biochemistry/Molecular
Caroline Newman	R124	Environment

The department is built upon over 500 person years of teaching and research experience at the University level, specific details for each member can be accessed via their staff profile pages at

[http://www.staffs.ac.uk/academic\\_depts/sciences/people/biological\\_biomedical\\_staff.jsp](http://www.staffs.ac.uk/academic_depts/sciences/people/biological_biomedical_staff.jsp)

### **3. An Introduction to your Course**

The MSci in Biomedical Science aims:

- To produce graduates with an integrated undergraduate masters degree, appropriate for a career in biomedical science, research, enterprise and related life science industry
- To provide an understanding of human health and disease, including the principles of diagnosis and treatment
- To provide opportunities to integrate a wide range of biological topics to understand the biology of health and disease
- To provide opportunities to integrate a wide range of biological topics designed to help understand the scope of biomedicine
- To provide an opportunity for students to undertake either a three month placement experience within life sciences or related industries, or a three month research assistantship within an existing research programme at the university
- To provide opportunities for enhanced employability by developing graduates as professional scientific practitioners
- To provide a coherent learning experience for you to acquire a broad knowledge and understanding of the scientific principles and techniques underpinning the biomedical and biological sciences
- To enable you to understand the importance of fundamental biological principles and their application to the world around you
- To develop your transferable skills, especially in team working and in the communication of science in a fashion understandable to the general public
- To develop research skills that you can utilise effectively to pursue independent work in a biomedical area
- To gain the skills necessary for independent learning and for attaining responsibility for your own career planning and development
- To develop a fully scientific approach to your study programme

- To develop your professional and research attributes to enhance your employability in the area of biomedical sciences.
- To provide a progressively structured, stimulating and supportive educational experience, which is informed by developments at the forefront of biomedical sciences.
- To provide opportunities for enhanced employability by developing graduates as professional scientific practitioners

Your award has a set of written learning outcomes that describe what you should be able to do by the end of each level of the course and can be found in Appendix A. These statements are designed to help you understand what you need to do to pass your course and receive your award.

Each module you study has separate learning outcomes which join together to enable you to demonstrate that you have achieved the overall learning outcomes for your award. The learning outcomes for your modules can be found in your module handbooks.

The specific learning outcomes for your award and modules have been matched to eight university wide learning outcome statements (knowledge and understanding; learning; enquiry; analysis; problem solving; communication; application; and reflection). These standard statements describe the abilities and skills all Staffordshire University students should demonstrate in order to pass their course. The statements have been designed to meet national expectations contained within the [Framework for Higher Education Qualifications](#). This ensures that the learning outcomes for your course are equivalent to similar courses at other UK universities and colleges. A table showing how your module learning outcomes have been aligned with the eight university learning outcome statements can be found in Appendix B.

The design of your course has been guided by the QAA national subject benchmark for Biological Sciences. Written by national experts, the benchmark describes the defining characteristics of the subject area and the abilities and skills you should be able to demonstrate by the end of the course.

#### **4. The Structure of your Course**

This MSci Biomedical Science usually takes 4 years to complete and typically 8 years if studied part-time. The course consists of 4 levels (level 4, 5, 6 and 7) and for each level you are required to study and pass 120 credits (full-time students study one level / 120 credits per year, part-time students typically study half a level / 60 credits per year). The maximum number of years you can be registered on a course is 8 years and the maximum amount of time you can take to complete any given level is 3 years.

The academic year is split into two semesters running from September through to June. The length of each teaching block is twelve weeks plus independent study, revision and assessment weeks. The [academic calendar for 2016-17](#) specifies the start and end dates of

semesters. Full-time students typically study 60 credits per semester whilst part-time students typically study 30 credits per semester.

Each level / 120 credits is divided into smaller credit modules. You will study both 15 credit modules (equivalent to 150 hours of learning time) and 30 credit modules (equivalent to 300 hours of learning time).

L E V E L 4	Semester 1	BIOL40586 Introduction  to  Scientific Practice  (30 credits)	BIOL40427 Molecules to Cells  (30 credits)	BIOL40431 Biology of Organisms  (30 credits)	BIOL40433  Biological Processes	BIOL40428  Professional Practice for Biomedical Scientists
	Semester 2					

Progression to Level 5 requires at least 90 credits of level 4 to be passed.

L E V E L 5	Semester 1	BIOL50445  Professional Practice  and  Placement  (30 credits)	BIOL50435  Human Biochemistry and  Physiology  (30 credits)	BIOL50436 Genetics  and  Cell Biology  (30 credits)	BIOL50444 Infection Science  (15 Credits)
	Semester 2				BIOL50440  Public Health  (15 credits)

Progression to Level 6 requires 210 credits of which 90 must be passed at level 5

L E V E L 6	Semester 1	BIOL60627 Research Project (30 credits)	BIOL60617 Haematology and Transfusion Science  (15 credits)	BIOL60618 Cellular Pathology  (15 credits)	BIOL60619 Clinical Biochemistry  (15 credits)
	Semester 2		BIOL60615 Human Infectious Disease  (15 credits)	BIOL60614 Clinical Immunology  (15 credits)	BIOL60613 Medical Genetics  (15 credits)

Progression to level 7 requires a minimum Second class: lower division (2.ii) classification

L E V E L 7	Semester 1	BIOL70631 Advanced Research Methods (30 credits)	BIOL70630 Advanced Biological Techniques (15 credits)	BIOL7634 Specialist Topics in the Biosciences (15 credits)
	Semester 2	BIOL70633 Life Sciences Placement (60 credits) or BIOL70632 Biological Research Assistantship (60 credits)		

Your timetable, can be found on the Biology Home on BlackBoard. We try to ensure prior to your arrival that your timetable works effectively for you but inevitably changes may be required.

## 5. The Staffordshire Graduate and Employability

**The MSci Biomedical Science aims to produce graduates who are reflective and critical learners with a global perspective that are prepared to positively contribute both in the world of work and society in general.**

As a Biomedical Science graduate you will develop **discipline expertise** informed by your exposure and engagement with the learning programme underpinned by research, consultancy and advanced scholarship.

Upon graduation you should be able to demonstrate your **professionalism** by being work ready, **enterprising** and **entrepreneurial** in your outlook. You will understand the role of the professional bodies in regulation and development of professional standards within the developing research-led disciplines of Biological Sciences.

You will have had the opportunity to develop both subject specific skills and a wider skill set that will form the foundations of you as a **lifelong learner** and aid your post- University development. You will be able to reflect on your skills and employability within the context of life sciences and related professions.

Activities such as finding new solutions to old problems or conducting a piece of research will demonstrate **independence of thought**, innovation, flexibility, initiative taking, leadership and risk-taking and will allow you to show **creative** ability in your delivery and **effective communication**. This ability will be both verbal and *via* a variety of electronic formats. This approach will also ensure you will be **technologically, digitally and information** literate, having used a range of technology in your degree including: technologies to access learning materials and information e.g. VLE and e-library resources; to record, collect and analyse data/information e.g. spreadsheets, analytical devices, diagnostic machinery and software and in research or industrial application.

You should also have developed the skills of **independence of thought** by social interaction and through **teamwork** to be able to identify opportunities, prioritise tasks and deploy appropriate skills to organise your time in order to enable **problem- solving** across a spectrum of activities to accomplish objectives. Equally, you should be able to adapt those skills and as appropriate demonstrate further skills of motivation, commitment, delivery, negotiation, leadership and responsibility to work effectively in team situations.

The completion of the **inquiry based learning** programme will help develop your **critical** and **reflective** approach. Specifically you will be able to understand the often contested nature of knowledge and be confident to question/challenge views and perspectives, ask appropriate questions and seek or generate appropriate information and 'data' to answer those questions; examine 'evidence' objectively to make informed and considered evaluations and judgements on the value/credibility of qualitative and quantitative information.

Science is global construct and as a Biomedical Science graduate you should develop as a **global citizen** with an understanding of both global issues and of your place in a globalised

economy. You will develop and understand various perspectives within the Biological sciences including moral and ethical, national and international and those related to culture and diversity and including those relating to the economy, society, environment and advancing medical approaches.

Appendix C shows how the Staffordshire Graduate attributes map against the core modules in which they are delivered.

More information on the Staffordshire Graduate can be found at:

<http://www.staffs.ac.uk/study/staffordshiregraduate/>

## **6. Professional recognition**

Our BSc (Hons) Biomedical Science and BSc (Hons) Applied Biomedical Science are accredited by the Institute of Biomedical Science. Furthermore our BSc (Hons) Applied Biomedical Science is approved by the Health and Care Professions Council. We are applying for IBMS accreditation for MSc Biomedical Science

## **7. Learning, Teaching and Assessment on your Course**

### **7.1 Learning and Teaching**

A key aim of your award is to develop you as a professional scientific practitioner and this is reflected in our approach to teaching, learning and assessment. You will start with high levels of tutor driven activities; often with in-class competence based work and gradually develop the skills, confidence and capabilities to drive your own learning both with us and beyond. For example, your practical skills - an essential skill set demanded by employers of bioscience graduates - will be developed and practised throughout your degree. In order to do this effectively you will spend a high proportion of class time in Levels 4 and 5 in the laboratory and/or field. In Level 6 more specialist practical skills are developed *via* your independent research project. At Level 7 you can choose to undertake a research assistantship by joining a research group on an existing research programme, or you can opt for a more applied industrial placement working in and with life science industry on real-life problems.

Throughout your award, theory and practice are integrated and many sessions will combine short lectures, seminars or workshops with practical work. This will allow theories and concepts to be explored, illustrated and reinforced and helps enhance your learning *via* direct experience. In-class activities will be supplemented by various online learning activities *via* the use of a virtual learning environment.

Being a scientific practitioner is not just about being adept in the laboratory or field; it is also about being adaptable, enterprising, able to solve problems and self-manage. It is also about being able to work and communicate effectively with others both within the sciences but also within a wider ethical and commercial framework. These skills reflect on your own development, your ability to think scientifically and your understanding of the wider context of science, all of these are skills and understanding are valued highly by

employers. These skills are encapsulated in the Staffordshire Graduate programme and this award enables you to develop the Staffordshire Graduate attributes embedded within three core modules; one at each Level 4 through 6. At MSci the Staffordshire graduate skills area further developed in the advanced research methods module which focuses on enhanced and targeted specialist skills for employability in research and entrepreneurial life science industry.

While all modules to varying degrees will address some of these aspects, Levels 4 and 5 include an overarching 30-credit module which will focus on these skills. This will be done by a mixture of workshops and tasks, some carried out independently, both of which are integrated with a tutorial programme that runs throughout the academic years 4 and 5, and culminates in a placement or equivalent experience during Level 5. Additionally, your skills and attributes are employed fully at Level 6 in your research project which is aligned with your award. At Level 7 advanced research methods aims to build upon skills development further creating highly desirable work-ready and high functioning life science graduates ready to contribute to scientific discovery and its application.

At each level of study you will be supported through our integrated tutorial system. At Levels 4 and 5 the tutorials are embedded in a 30 credit module and are a mixture of one-to-one and small group tutorials focusing on the support for your learning, effective use of feedback and developing your graduate attributes. At Level 6 in addition to tutorials with your project supervisor, you continue to have tutorials with your personal tutor focused on personal development and career success. A Level 7 coaching tutor supports all MSci students in their first semester before they join active research teams to undertake their project work. During project work, or industrial placement, students are mentored, as they would be in a genuine workplace environment. This varied approach encourages independence and self-management which are key features of a graduate level employee.

## 7.2 Placements and Work-Based Learning

This award includes a compulsory, "placement" type of graduate level endeavour as part of the Level 5 module Professional Practice and Placement. This placement is an Award Specific Requirement so all students need to successfully complete this element of the module. Failure of this requirement will result in failure on all of our biological and biomedical awards.

This placement is a valuable experience and helps link to your practitioner development and obviously the Staffordshire Graduate programme mentioned elsewhere within this document.

The actual type of work can be varied but nominally equates to 21 days of full-time activity and can include things such as a traditional work placement, volunteering, social enterprise project, potentially existing part time work, organising an event or series of events, setting up a new club/society, developing and delivering aspects of a school curriculum or public engagement work or acting as an research intern with a member of staff.

You will be required to consider what type of work experience you would like to undertake and make contact with potential providers. Once you have established the placement is possible you are required to complete a placement application form. These are used by the Administration Team who will send the provider a copy of your application form and a Health and safety form. Once this form has been returned to the University you will be able to undertake your placement.

The second opportunity to carry out work experience is in Level 7 where you can choose to do a 60 credit Placement. The placement is a period of 10 weeks and there is a requirement for you to seek and identify relevant project work which constitutes a minimum of 40 hours in total.

The content will be highly dependent on the nature of the work undertaken during the placement but it must be tailored to the student's needs whilst satisfying the company requirements. Therefore the project will be negotiated between the placement manager (module co-ordinator), the student and his/her industrial supervisor and a learning contract will be drawn up with the employer and the university prior to undertaking the placement.

### 7.3 Assessment

The assessments are designed to assess the knowledge, understanding and skills relevant to a career in the life and biomedical sciences and are progressively structured; so, for example, the number of assessments reduce as you progress through the levels, as they become more demanding; this reflects your development as scientists and autonomous learners with developing skill sets. Typically at Levels 6 and 7 you will have one assignment per 15 credits.

Assessment will be by a mixture of coursework and exams. Coursework assessments are very varied (e.g. producing web pages, wikis, scientific articles, posters and presentations, literature reviews, video diaries, delivering seminars, *viva voces*, report writing etc.) and are designed to develop and assess a range of skills relevant to employment. Practical skills will be assessed both directly *via* tests of competency in carrying out various laboratory (and/or field) techniques, and also indirectly *via* the production of laboratory-based reports. At Level 7 laboratory books of industry standard are utilised for practical work. Normally you are expected to pass all module elements.

In Level 4, examinations will assess your breadth of knowledge and understanding of the fundamental concepts of the discipline. In Levels 5 and 6 the examinations, whether practical, essay-based or short answer/multiple choice, will test your ability to analyse, synthesise and evaluate ideas, to justify and to develop arguments.

MSci assessment focuses on your abilities to produce and display high quality scientific work that is of interest to the scientific community. Therefore assessment focuses on output of a professional nature such as publication, review, report writing, conference presentation, 'work-in-progress' talks, seminars, public engagement and media interview. MSci graduates will develop a portfolio of evidence showing their active engagement in the dissemination of their work. In addition, those undertaking a placement will be encouraged to use industry standard reporting methods as part of the assessment.

## 7.4 How to submit your assessment

You must submit all pieces of assessment required for each module on or before the submission date for each piece of assessment. Failure to do so is likely to result in failure of the module overall. There may be occasions when you are unable to submit or undertake a piece of assessment due to circumstances beyond your control. The University has put in place a procedure for dealing with such extenuating circumstances. You can find more information on the university's extenuating circumstances procedure at:

[http://www.staffs.ac.uk/support\\_depts/info\\_centre/handbook/extenuating/](http://www.staffs.ac.uk/support_depts/info_centre/handbook/extenuating/)

### Submitting Assignments Online

The majority of your assignments will be submitted electronically. Online assignments will be submitted through BlackBoard, using one of a number of methods. In each case, the module handbook and BlackBoard site for that module will make it clear how and when you are required to submit your work. All assignments should be submitted through the Module space in Blackboard, and not through the award space. All assignments are marked anonymously unless this is not possible or undesirable.

In some cases you may be asked to submit your work via email or another online process. In each case, this will be made clear in your module handbook.

All electronic submissions via Blackboard should have an e-version of the coversheet cut-and-pasted into the front of your assignment document and will include Turnitin anti-plagiarism screening.

If written submission is needed it will be detailed in module handbooks or in the guidelines for assessment. You will be given explicit instructions as to how and where you submit these assessments.

### Anonymous Submission

Note that most assignments are marked anonymously, and that you are asked to fold and stick down the top-flap of the assignment receipt form to conceal your name before handing in your work. This is an important tool in helping to safeguard the integrity of the assessment process. Anonymous marking, however, may not be appropriate for certain kinds of assessment (for example, an artefact or presentation).

For online submissions, we will use the tools available in Blackboard to ensure anonymity wherever possible.

### Learning Support Agreements

If you have a learning support agreement which recognises dyslexia as a disability, make sure that you ask for one of the yellow stickers (available from the Faculty Office) to attach to your work to signal to the tutor that the assignment needs to be marked on content and understanding and not penalised for grammar, spelling or punctuation errors.

For online submissions, you will be advised by you Faculty Office, or in the module handbook on how to signal this to your tutor.

Similarly, if your learning support statement specifies that you can negotiate the submission dates of your assessments then please ensure that you have agreed new submission dates with your tutor in advance of the original deadline. On the Faculty assignment cover-sheet there is a box for stating the agreed negotiated deadline and the tutor's signature. Please be mindful of the fact that you may need to complete the cover-sheet in advance of the submission date to ensure you get the tutor's signature – rather than assume the tutor will be available on the day / time you intend to submit.

If you hand work in after a negotiated deadline, it will be treated as 'late', and will be marked at zero. So, if having once negotiated a deadline you find that, as it approaches, you are going to need a further extension, you will need to go back to your Award Leader / Personal Tutor to authorise this. Your Award Leader / Personal Tutor will use the test of 'reasonableness' in agreeing to any further extension.

If you need to adjust the assignment schedule agreed with your Award Leader / Personal Tutor for reasons that are unrelated to your disability, then you will need to use the normal Extenuating Circumstances procedure.

### Keeping a Backup

Finally, of course, it is good practice to keep a hard or (backed-up) electronic copy of any assignment you submit, whether that assignment is submitted on paper or electronically. Should the assignment you submit get lost, then you will have the receipt to prove that you handed it in, and a copy to replace what has been lost.

## 7.5 Feedback on your Work

### Seven principles of good feedback

Good feedback should:

- Be an interactive process involving student-tutor and student-student dialogue;
- Facilitate the development of self assessment and reflection;
- Clarify for students and staff, through dialogue, what good or bad performance actually is in the assignment or task;
- Be developmental, progressive and transferable to new learning contexts;
- Be ongoing and embedded in the learning process;
- Motivate, build esteem and confidence to support sustainable lifelong learning;
- Support the development of learning groups and communities.

### Coursework and other assessments, excluding examinations

You will normally receive feedback on all your assessments, other than examinations, within 20 working days following the date of submission of your assessment or actual date of the assessment (in the case of class tests). For most assessments the feedback period will be less than 20 working days. However, it may be the case that the 20 day rule for some assessments cannot be met for justified reasons (for example, modules on which a large number of students are enrolled). However, it is anticipated that this will apply to only a small number of modules on your award and, in those cases, the feedback return period will not exceed 25 days. The anticipated feedback return times for all assessments will be published in your Module Handbooks.

In order to ensure that feedback is provided within 20 days, in most cases, the marks for your work will be provisional and will be subject to final ratification by the appropriate Assessment Board in due course.

If work is submitted for formative comments it is normal to only submit it once, usually as a plan rather than the full submission.

### **Formal University examinations**

Feedback for examinations will always be provided. At the latest, feedback should be provided at least four weeks before the next examination period.

The University hopes that you will also play your part by ensuring that you collect feedback from the relevant sources as soon as it is available.

### **7.6 External Examiners Appointed to your Course**

External examiners help the university to ensure that the standards of your course are comparable to those provided by other Universities or Colleges in the UK.

The external examiner for your course is:

Dr. Christine Murphy, Biomedical Science Programme Leader, University of Hull

It is not appropriate for you to make direct contact with your external examiner. External Examiners are not allowed to respond to any direct communication from a student.

### **8. Extra Costs**

All students are provided with a laboratory coat and must bring them to all sessions which are based in the laboratories (both wet and dry practicals). If, occasionally, you forget your laboratory coat you may hire one. If you do not have a laboratory coat or do not have the money to hire one, you will not be permitted to carry out the practical. Purchasing of stationary, calculators (note mobile telephones are not allowed in wet labs or examinations) and texts are the responsibility of the students.

Fees will cover the cost of all compulsory laboratory based work and fieldwork.

## 9. Communication

From us to you

- In class.
- Personal face to face meetings.
- Email – staff will use your student email account and not your private email addresses. You must check this regularly and ensure your mail box is not full.
- BlackBoard. All modules have BlackBoard support and this is a useful way to communicate module specific information.

From you to us

- In class
- Email. Simple enquires can be dealt with quickly by email. However before contacting staff you should ensure you have checked your course handbook or module handbook as often the information is already available in these resources. Personal email accounts are not acceptable channels of communication.
- Meetings. Some queries need to be addressed by face-to-face meetings. If this is the case you should telephone the staff member from the Faculty Reception to see if they are available. Generally staff are happy to meet students straight away. However if they are not available (e.g. if they are going to a class) then it may be necessary to make an appointment for a mutually convenient time.

## 10. Support and Guidance

There are a number of ways by which you can seek support and guidance and this may depend on the nature of your query.

Award Leaders (Dr Kevin Reiling and Dr Pauline Gowland) are available for providing advice about the award related matters such as changing award or study mode.

All modules have a designated Module Co-ordinator and these can be the first point of contact for any questions relating to a specific module. The name and contact details for Module Co-ordinators are provided in the module handbooks.

You will normally be allocated a Personal tutor before you start term and you will meet them in Welcome Week and on a regular basis throughout your studies. In accordance with the University's Personal Tutoring. You will keep the same Personal Tutor for all levels. The School of Sciences Personal Tutoring Scheme is embedded within your modules and thus requires a number of group and individual meetings during the course of the year. However, if you have any problems or queries, you should contact your Personal Tutor to discuss them, as soon as possible – don't wait for a scheduled meeting.

Your Personal Tutor will:

- be your first point of contact to give you advice or direct you to further support on academic and pastoral matters and University services;
- help you develop your academic skills;
- oversee your academic progress on your award including providing general feedback on your overall academic performance and help you enhance your learning by you reflecting on your feedback;
- encourage you to engage with all the opportunities the University has to offer to enhance your Staffordshire Graduate Attributes and employability;
- encourage you to give feedback to the University on your modules and in course surveys;
- be prepared, if requested, to provide written references for you.

To ensure that you get the most from your personal tutorials your course team expect you to:

- maintain regular communication with your Personal Tutor, attending all meetings/making contact as arranged;
- proactively contact with your Personal Tutor when you need help or guidance which may impact on their academic performance or pose any risk to their withdrawal or progression;
- prepare for and engage in Personal Tutor-related activities;
- positively respond to advice provided to resolve any issues that you have with your studies.

If you have any general concerns, the Faculty Student Guidance Advisor can help you with a wide range of educational issues as well as offering specialist information and support. A drop-in service is available, but to discuss an issue in depth you can then book an appointment. Further details can be found at [http://www.staffs.ac.uk/support\\_depts/studentguidance/advisors/](http://www.staffs.ac.uk/support_depts/studentguidance/advisors/).

The University offers help and support in many areas including counselling, disability, learning support agreements, equality & diversity, international students, mature students etc. Information on university support services can be found in the on-line student guide (available at: <http://www.staffs.ac.uk/student/guide>)

The Student Advice Centre run by the Student's Union provides independent, impartial and confidential advice to students free of charge. More information on the Student's Union can be found at: <https://www.staffsunion.com/>.

## **11. The Student Voice**

During the course you will have the opportunity to share your views and opinions on your modules, course and the university. Your feedback is key to ensuring that we get an

accurate picture of what it is like to be a student at Staffordshire University and enables us to enhance the learning experience for current and future students.

In each module that you study you will have the opportunity to complete a module evaluation questionnaire and provide some feedback to help us continuously improve the classes that we deliver to you.

At Levels 4 and 5 you are invited to complete the SVS (Student Viewfinder Survey) and at Level 6 you will complete the NSS (National Student Survey). The SVS is conducted internally by the University, whilst the NSS is an external survey conducted across the whole of the UK. Both the SVS and the NSS measure student satisfaction.

Six months after graduating you will be asked to complete the DLHE (a survey about the Destinations of Leavers from Higher Education); another external survey to collect information about graduate employment.

The NSS and DLHE feed into University league tables and can be used to compare across courses and universities.

Programme Committee Meetings are held once each semester. The scheduled meetings are announced on BlackBoard and students are invited to raise any points for discussion with their student representative (either in person or via a discussion board). Meeting notes are also posted on BlackBoard in a dedicated course committee area. Each level is usually represented by one student who is responsible for raising your views and any issues about the course.

Student representatives are elected via the University election scheme and are expected to attend the student liaison committees.

Examples of issues raised and how we addressed them:

You said . . .	We did . . .
In some cases assessment feedback was too slow.	Improved the turnaround time for assessment feedback and on every assessment description you will be given a date by which you can expect to receive feedback.
The timetable was unclear and difficult to understand.	Each student at level 4 receives an individual day by day timetable of where to be for every attendance day until Christmas. After that information is provided in a week view format .
Timing of assessments.	All modules now fit into an overall planned assessment regime designed to spread the student load as much as possible.

## 12. Rules and Regulations

Your course is delivered and assessed according to the University's Academic Award Regulations. These can be accessed at: <http://www.staffs.ac.uk/regulations>

In addition to the standard regulations, the Level 5 Placement is an Award Specific Requirement and must be completed. Failure to complete this will result in failure on this, and all of our biological and biomedical awards.

Progression and transfer on the MSci award. To remain on the MSci pathway you must normally obtain a pass mark of at least 50% for every module. If less than 50% at the L4 to L5 progression point you will be counselled and placed on probation. If you do not manage 50% in all subsequent modules at the end of L5 you will normally be transferred to the BSc pathway. At the end of Level 6, the next progression point, overall attainment must be equivalent or better than that needed to obtain a Second Class Lower Division award if you had been on the BSc pathway.

BSc students wishing to transfer to MSci will normally be allowed this option at the end of the academic level you have fulfilled the following criteria:

At the end of Level 4 at least 50% in all Level 4 modules studied.

At the end of Level 5 at least 50% in all Level 5 modules studied.

At the end of Level 6, grades that would normally obtain at least a Second Class Lower Division award.

## Appendix A – Award Learning Outcomes

	<b>Level 4 (Cert HE)</b>	<b>Level 5 (Dip HE)</b>	<b>Level 6 (BSc (Hons))</b>
Knowledge & Understanding	Define & explain fundamental biological terminology and concepts underpinning the biomedical sciences	Use biomedical terminology accurately and in an appropriate context, and demonstrate knowledge and critical understanding of key biological concepts and theories	Demonstrate advanced knowledge & understanding of a complex body of biological principles, concepts & theories, which extends beyond the directly taught programme, at least some of which is at the forefront of the biomedical sciences
Learning	Recognise how knowledge and understanding has developed within the biomedical sciences	Recognise some of the current limits of knowledge in aspects of the biomedical sciences	Recognise and take account of the ambiguity and provisional nature of knowledge when drawing conclusions and evaluating information
Enquiry	Demonstrate competence and safe working practices in basic practical techniques, manipulate and interpret data	Apply a range of standard biological and data analysis methods and techniques in order to conduct and interpret laboratory investigations	Select, evaluate & apply appropriate techniques to conduct biomedical investigations safely and ethically, and interpret, evaluate & present the data produced
Analysis	Evaluate and interpret biomedical concepts and principles	Critically analyse biomedical information using a range of established techniques	Describe and comment upon biomedical research or advanced scholarship, and critically evaluate arguments, assumptions etc. to make judgements
Communication	Describe and explain in a coherent and well structured manner fundamental biological/biomedical concepts	Communicate using a range of formats a set of biomedical ideas and/or explain and substantiate a viewpoint	Communicate effectively and confidently, in various formats, complex ideas and reasoned arguments
Problem Solving	Consider and choose between approaches to solving well defined problems	Develop and implement appropriate strategies to solving problems	Develop questions to achieve a solution (or identify a range of solutions) to a complex problem or series of problems
Application	Understand how biological knowledge and skills can be applied to real-world problems relating to human disease	Apply biomedical principles, concepts and practical skills outside the context in which they were first studied, including their application in an employment context	Apply advanced knowledge, understanding, methods and techniques, some of which are at the forefront of the discipline, to an understanding of the biology of disease, including diagnosis and treatment
Reflection	Reflect on their knowledge and skills development	Critically evaluate their strengths and weaknesses and demonstrate personal responsibility in order to advance their personal and professional development	Demonstrate personal responsibility, manage their own learning, & exercise initiative in complex & unpredictable circumstances

<b>MSci Level 7 outcomes</b>
<p><b>Knowledge &amp; Understanding</b></p> <p>Demonstrate advanced knowledge &amp; understanding of a complex body of biological literature, principles, concepts &amp; theories, which extends beyond the directly taught programme and which is at the forefront of the biomedical sciences</p>
<p><b>Learning</b></p> <p>Recognise and take account of the ambiguity and provisional nature of knowledge when drawing conclusions and evaluating information in biomedical science, whether it is from published literature or research generated data. Develop new skills to a high level for continuing professional development.</p>
<p><b>Enquiry</b></p> <p>Select, evaluate &amp; apply appropriate techniques to conduct biomedical investigations safely and ethically, and interpret, critically evaluate &amp; present the data produced including the proposition of new hypotheses.</p>
<p><b>Analysis</b></p> <p>Describe and comment upon current biomedical research or advanced scholarship, and critically evaluate arguments, analyses and assumptions to make scientific judgements.</p>
<p><b>Problem Solving</b></p> <p>Develop questions to achieve a solution (or identify a range of solutions) to a complex problem or series of problems. Employ appropriate decision-making in complex and unpredictable situations.</p>
<p><b>Communication</b></p> <p>Communicate complex ideas and reasoned arguments effectively and confidently, in varied formats, to different types of audiences.</p>
<p><b>Application</b></p> <p>Apply advanced knowledge, understanding, methods and techniques, which are at the forefront of the discipline, to research in biomedical science, including applied research within the life science industries.</p>
<p><b>Reflection</b></p> <p>Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of initiative and personal responsibility self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional level.</p>

## Appendix B – Curriculum Maps

The University has identified a set of general learning outcomes which any student can expect to achieve as a result of studying at the University. These were identified by the University from the national framework for Higher Education Qualifications, and these types of learning outcome are common to all degrees across the university, and to all levels of study. They vary in specific content depending on programme area and level of study. As you progress through the levels of the award, the range of material you will have encountered, and your expertise in those areas will increase. These general learning outcomes are as follows:

- **Knowledge and Understanding.** You will know and understand a body of knowledge about the field.
- **Learning.** You will be able to distinguish different approaches within the field and to participate in debates about the validity of these approaches.
- **Enquiry.** You will be aware of a range of research methods, of the ethical considerations associated with them, and be able to use these methods, supported by a range of information sources.
- **Analysis.** You will be able to analyse and evaluate theories and concepts in the field and to use different research methods for this purpose.
- **Problem Solving.** You will be able to analyse problems in terms of your field of study and to carry out research designed to solve those problems.
- **Communication.** You will be able to communicate in a range of different ways about ideas in the field, using conceptual analysis and empirical evidence, and to use information technology appropriately (e.g. word processors and statistical software) to do so.
- **Application.** You will be able to apply your knowledge and understanding of the field to real life issues using the skills itemised above.
- **Reflection.** You will be able to work independently and responsibly in the field, and have acquired general skills valued in employment or future learning.

The tables on the following pages map these general learning outcomes to the specific learning outcomes for each module which makes up MSci Human Biology.

Modules	Knowledge & understanding	Learning	Enquiry	Analysis	Problem Solving	Communication	Application	Reflection
Level 4								
<b>Introduction to Scientific Practice (30 Credits)</b>								
1. Carry out enquiry based learning and critical analysis by demonstrating an awareness of personal	✓			✓	✓			✓

<b>Modules</b>								
<b>Level 4</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
responsibility for your own learning and by conducting a personal skills audit identifying where skills gaps exist mapped against career and employment expectations.								
2. Demonstrate a high level of IT, oral and written communication skills		✓				✓		
3. Display the ability to work in a team to develop, execute and present the outcome of an investigation appropriate to the level of study			✓	✓	✓	✓		
4. Self-evaluate and reflect on your progress in developing the attributes considered essential for the Staffordshire Graduate				✓				✓
5. Demonstrate knowledge and understanding of basic good laboratory practice, safe working, data handling and fundamental principles underlying the biological sciences.	✓	✓					✓	
6. Manipulate and interpret information from a variety of sources including those of a statistical nature.			✓	✓	✓			
<b>Molecules to Cells (30 Credits)</b>								
1. Describe the physical and chemical structures of typical eukaryotic and prokaryotic cells together with the roles of their biologically important molecules, organelles and other cellular components	✓					✓		
2. Explain, at the molecular level, the events that allow the transmission of information along genetic and metabolic pathways	✓	✓						

<b>Modules</b>								
<b>Level 4</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
3. Safely and competently perform selected practical procedures involving a range of basic equipment and appropriately interpret findings in the context of published biological literature			✓	✓		✓	✓	✓
<b>Biology of Organisms (30 credits)</b>								
1. Recognise representatives of the major forms of life, be aware of diagnostic aspects of their biology and the subsequent implications to survival and reproduction.	✓	✓						
2. Successfully communicate fundamental biological concepts	✓					✓		
3. Successfully display the ability to evaluate and integrate various types of information from a variety of sources into a professionally appropriate written format.				✓				✓
<b>Biological Processes (15 Credits)</b>								
1. Describe the significance and interaction of key biological processes relating to the activity of molecules, cells, organisms and populations.	✓						✓	
2. Appraise your ability to critically investigate information relating to Biological processes				✓		✓		✓
<b>Professional Practice for Biomedical Scientists (15 Credits)</b>								
1. Begin to recognise the value of research to the systematic evaluation of their practice.	✓	✓	✓					✓

<b>Modules</b>								
<b>Level 4</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
2. Be able to conduct evidence-based practice	✓	✓	✓				✓	
3. Evaluate research and other evidence to inform their own practice			✓	✓		✓	✓	
4. Demonstrate competence in the use of search engines and other information searching methods		✓	✓					

<b>Modules</b>								
<b>Level 5</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
<b>Professional Practice and Placement (30 Credits)</b>								
1 Be work ready and employable and understand the importance of being enterprising and entrepreneurial through the reflection upon your career goals in relation to your personal and professional development and citizenship		✓						✓
2 Be a good communicator with the confidence to interact with a range of colleagues. Effectively communicate your skills and abilities through the problem-solving and contextualisation of your own experiences in work-based situations.	✓				✓	✓	✓	✓
3 Have developed the skills of independence of thought and social interaction through teamwork, being critically self-aware of the demands while work-based and, more				✓				✓

<b>Modules</b>								
<b>Level 5</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
generally, aware of the importance of team work skills in the working environment.								
4 Self-evaluate and reflect on your progress in developing the attributes considered essential for the Staffordshire Graduate				✓				✓
5 Formulate approaches for the self development in the short, medium and long term				✓	✓			✓
6 Develop, design and present details of research based scientific investigation			✓		✓	✓		
<b>Human Biochemistry and Physiology (30 Credits)</b>								
1. Convey understanding of enzymes and metabolic processes; the inter-relationship of pathways, importance of metabolic regulation and consequences of metabolic dysfunction	✓						✓	
2. Explain the role of cellular tissue and organ anatomy in the facilitation of the body's physiological and biochemical mechanisms	✓		✓				✓	
3. Describe the physiological significance and interaction of individual organ systems of the human body in health and disease based upon experimental evidence, practical experience and theoretical background	✓		✓				✓	
4. Critically evaluate experimental evidence from both practical experience and current literature				✓			✓	✓
<b>Genetics and Cell Biology (30 Credits)</b>								

<b>Modules</b>								
<b>Level 5</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
1. Explain the major concepts of genetics, cell biology and immunology developed from level 4 and have developed knowledge and understanding of the technologies of genetic analysis and molecular cell biology	✓	✓						
2. Evaluate the application of techniques covered for the diagnosis and treatment of genetic disease and be aware of the broader importance of the techniques in terms of general application				✓			✓	
3. Safely and competently perform selected practical procedures involving a range of laboratory equipment and appropriately interpret findings in the context of published biological literature			✓	✓			✓	
4. Outline experimental strategies toward a specific goal using these technologies					✓			
5. Communicate effectively the background and outcome of the topics in this module						✓		
<b>Infection Science (15 Credits)</b>								
1. Demonstrate knowledge and understanding of the role of medical microbiology in the diagnosis and monitoring of infectious disease.	✓							
2. Evaluate the use of qualitative and quantitative techniques used for the isolation and identification of human pathogens			✓	✓	✓			

<b>Modules</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
<b>Level 5</b>								
3. Demonstrate an understanding of the control of microbial growth and how this can be applied to the prevention and treatment of infectious disease.	✓			✓				
<b>Public Health (15 Credits)</b>								
1. Demonstrate knowledge and understanding of key concepts, methods of enquiry and application of information literacy in the field of epidemiology and public health medicine.	✓		✓					
2. Critically analyse information and data in order to illustrate the relationships between disease, environment and health				✓				
3. Evaluate the appropriateness of different approaches to solving public health issues and propose alternative solutions to problems arising from the analysis of disease transmission and epidemiology					✓			

<b>Modules</b>								
<b>Level 6</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
<b>Research Project (30 Credits)</b>								
1. Gather, synthesise, summarise and critically evaluate information and evidence including current biological research and then use that information to support and develop arguments	✓	✓						
2. Safely and ethically execute appropriate practical techniques to conduct a biological investigation with minimal guidance and indirect supervision			✓				✓	✓
3. Explain the scientific principles underlying the methods and techniques used and evaluate their limitations and alternatives including consideration of relevant safety and ethical issues	✓	✓					✓	
4. Apply appropriate statistical techniques to test biological hypotheses and demonstrate an awareness of their assumptions and the limitations of the tests used		✓			✓		✓	
5. Confidently and proactively employ IT skills as an integral tool to support learning			✓					
6. Communicate in the format and style appropriate to a professional biological scientist						✓		

<b>Cellular Pathology (15 Credits)</b>								
1. Describe the microscopic appearances of cells and tissues and relate these to underlying disease processes	✓					✓		
2. Discuss the role of cellular pathology in the diagnosis and treatment of disease	✓	✓						
3. View pathology specimens and appropriately interpret findings in the context of published biological literature			✓	✓			✓	✓
<b>Medical Genetics (15 Credits)</b>								
1. Understand the application of DNA technology to the study of humans particularly related to health	✓							
2. Understand the basis for the aetiology and symptomatic presentation of a range of medical disorders in humans	✓							
3. Recognise and evaluate the increasing and potential role and importance of molecular Biology and genetics in clinical diagnosis and treatment							✓	
4. Synthesise, evaluate and communicate subject matter, concepts and opinions of substantial intellectual rigour				✓		✓		
<b>Haematology and Transfusion Science (15 Credits)</b>								
1. Communicate knowledge of the function of blood systems and allied tissues and display an understanding of current awareness of disease/dysfunction and its diagnosis and	✓					✓		

monitoring at a professional level.								
2. Demonstrate the ability to research and evaluate a wide variety of materials to fully display the multifaceted nature of biomedical problems.			✓	✓			✓	
<b>Clinical Immunology (15 Credits)</b>								
1. Demonstrate a detailed knowledge and understanding of how the immune system functions normally and when diseased; including how this knowledge is applied to the diagnosis, screening and monitoring of disease.	✓						✓	
2. Evaluate critically the approaches used, methods deployed and data arising from immunological investigations and to use this learning to propose solutions to clinical questions derived from scenarios of an immunological nature.				✓	✓			
<b>Clinical Biochemistry (15 Credits)</b>								
1. Demonstrate a detailed knowledge and understanding of the methods used to screen diagnose and monitor the presence or absence of relevant analytes in instances of disease or metabolic disorder	✓							
2. Display an understanding of disease aetiology or of development of methods of analysis that may include theories or hypotheses which have to be evaluated in the context of current understanding		✓		✓				

3. Communicate the role of clinical biochemistry in elucidation or explanation of a given scenario to an audience of peers in the form of a report specific case review.						✓		
<b>Human Infectious Disease (15 Credits)</b>								
1. Understand the pathogenic mechanisms of a range of infectious agents	✓							
2. Critically evaluate the methods used to control and treat human infectious disease				✓				
3. Discuss and evaluate the factors which contribute to the emergence of new infectious diseases		✓						
4. Interpret, evaluate and present data from primary literature						✓		

<b>Modules</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
<b>Level 7</b>								
<b>Advanced Biological Techniques (15 Credits)</b>								
1. Demonstrate and in-depth knowledge of the role of a graduate analyst in biological research	✓							
2. Display knowledge of the techniques used by analysts and understand their use in research investigations			✓	✓				
3. Integrate current theoretical concepts and examples							✓	
<b>Advanced Research Methods (15 Credits)</b>								
1. Demonstrate professional level research planning skills			✓	✓	✓		✓	

<b>Modules</b>								
<b>Level 7</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
appropriate to a professional Bioscientist								
2. Display advanced skills in data handling, analysis and the use of standard statistical software		✓		✓	✓		✓	
3. Effectively communicate the salient features of your experimental design and planning to a professional audience	✓					✓		
4. Produce a critical and evaluative peer review appropriate to a professional publication								✓
<b>Biological Research Assistantship (60 Credits)</b>								
1. Demonstrate the ability to plan and execute an extended piece of original research		✓	✓					
2. Liaise effectively with academic staff in devising a series of experiments aimed at answering questions of direct relevance to research in the field						✓	✓	✓
3. Collect high quality data and carry out appropriate analysis and record findings in sufficient detail to allow other to reproduce your work				✓			✓	✓
4. Effectively review progress towards agreed targets and independently take any action necessary to meet aims				✓	✓			✓
5. Demonstrate advanced skills in locating and reviewing appropriate scientific literature and assessing its impact on the study	✓	✓	✓	✓				
6. Write a concise coherent report of the work carried out and its significance in						✓		✓

<b>Modules</b>  <b>Level 7</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
addressing the research questions posed and deliver an oral presentation summarising important aspects of your work								
<b>Life Sciences Placement (60 credits)</b>								
1. Demonstrate ability to work at an advanced lever, evaluate issues, communicate and learn effectively working with an organisation that delivers professional life science related products or service		✓			✓	✓		✓
2. Demonstrate a systematic understanding of the knowledge base of an organisation and critically evaluate how methods and techniques are applied in practice and how information is interpreted	✓		✓	✓			✓	
3. Reflect upon the impact of leadership and management within organisations and the role of networking and negotiation in securing scientific business in the life sciences sector				✓				✓
4. Communicate the experience of the placement in a structured format						✓		
5. Reflect upon the skills and knowledge gained through the placement								✓

<b>Modules</b>  <b>Level 7</b>	<b>Knowledge &amp; understanding</b>	<b>Learning</b>	<b>Enquiry</b>	<b>Analysis</b>	<b>Problem Solving</b>	<b>Communication</b>	<b>Application</b>	<b>Reflection</b>
<b>Specialist Topics in the Biosciences (15 Credits)</b>								
1. Identify specialist topics relevant to your discipline and applicable to your future career prospects								✓
2. Critically evaluate topics at the forefront of your discipline				✓				
3. Demonstrate advanced knowledge of two specialist topics relevant to your subject discipline	✓	✓						
4. Communicate knowledge gained to peers in lecture and questions/answer session						✓		

## Appendix C – The Staffordshire Graduate

Attribute Characteristic	Level	Module(s) code: title	No of Credits	Core or Option C / K / O	Brief description of activity / activities	How is achievement 'assessed'?  (will assume it is an individual assessment - please indicate otherwise)
<b>Work-ready and employable</b>	<b>4</b>	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Development of core laboratory, data handling and statistical analysis skills	Demonstrating competency (team and individual)  Reflective Portfolio
	<b>5</b>	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Professional practice/identify is explored in terms of 'being a professional' in work and employment. Design of practical investigation.	Oral presentation.  Placement Report
	<b>6</b>	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Design implementation and analysis of a scientific investigation.	"Scientific Paper"  <i>Viva voce</i>
	<b>7</b>	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Demonstrate professional level research planning skills appropriate to a professional Bioscientist.	Project methodology, design and plan.
<b>Understanding of enterprise and entrepreneurship</b>	<b>4</b>	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Introduction to team working attributes (Belbin), effectiveness of working in a team. Identification and reflection on personal skills and attribute development (SWOT analysis).	Reflective portfolio on skills development – their identification of where they are at regarding the key skills identified as important by employers.

	5	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Identifying opportunities, showing creativity and innovation are all part of scientific progress. Focused workshops embed the need for enterprise and entrepreneurship in both the industrial and wealth creation dimension but also as fundamental traits within the basic scientific skill set.	Oral presentation. Placement Report
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Students need to identify novel approaches and solutions in order to complete the work, expanding on Level 5 development.	“Scientific Paper” <i>Viva voce</i>
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Students will need to be capable of providing a critical peer review. This involves identifying and defining key ideas and approaches, often novel, in order to assess the viability of the plans and solutions proposed.	Written peer review of oral presentation.
<b>Understanding of global issues and graduate’s place in the global economy</b>	4	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Attendance at a series of ‘key note’ lectures delivered by staff and guest speakers some of which will cover issues relating Biological Sciences within a global perspective. The content will also highlight the opportunities of a biological science student within an international employment market.	Within the team executed mini-research project and/or the individual presentation on a biological science topic of their choice.
	5	<ul style="list-style-type: none"> <li>Professional Practice and</li> </ul>	30	C	Employability, professional development and scientific discovery	Professional practice and the development of professional

		Placement			are fundamental to this module, and are in their own right global issues, which have implication for the global economy. Students, through their engagement with employability, professional development, and scientific discovery issues, develop an awareness of the global economy. The graduate has a place in the global economy as a result of their professional practice and the development of professional identify, and hence their awareness of their place in the global economy is facilitated through the demonstration of identify and practice.	identify are assessed within the oral presentation and placement report
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Students are working as a scientific professional and thus draw upon and communicate to the global audience.	“Scientific Paper” <i>Viva voce</i>
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Students are working as a “graduate level” scientific professional and thus need to draw upon and communicate to the global audience.	Oral presentation
<b>Communication skills</b>	4	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Team executed mini-project, subject specific presentation of their choosing.	Team executed mini-project, subject specific presentation of their choosing. Reflective portfolio on skills development.
	5	<ul style="list-style-type: none"> <li>Professional Practice and</li> </ul>	30	C	The module encourages peer-interaction, oral presentation and	Oral presentation and placement report

		Placement			written reflective pieces and video production	
	6	• Research Project	30	C	Participation in student conference	“Scientific Paper” <i>Viva voce</i>
	7	• Advanced Research Methods	30	C	Students need to effectively communicate the salient features of their experimental design and planning to a professional audience.	Data presentation Project plan Oral presentation
<b>Presentation skills</b>	4	• Introduction to Scientific Practice	30	C	Team executed mini-project, subject specific presentation of their choosing.	Team executed mini-project, subject specific presentation of their choosing. Reflective portfolio on skills development.
	5	• Professional Practice and Placement	30	C	Learners become aware through a variety of activities how everything from body language to final summative written reports are encapsulated in the term ‘professional skills’	Oral presentation and placement report
	6	• Research Project	30	C	Participation in student conference, production of “Scientific Paper” and <i>Viva voce</i>	“Scientific Paper” <i>Viva voce</i>
	7	• Biological Research Assistantship • Placement • Advanced Research Methods	60 60 30	K K C	Presentation of all material will be aiming for the professional Bioscientist level and will include a variety of written and oral presentations.	‘Work-in-Progress’ talks Conference Paper Oral presentation
	<b>The ability to</b>	4	• Introduction to Scientific	30	C	Team executed mini-project, subject

<b>interact confidently with colleagues</b>		Practice			specific presentation of their choosing.	subject specific presentation of their choosing. Reflective portfolio on skills development.
	<b>5</b>	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Peer-interaction and peer-evaluation are encourage and while on placement students will work with a number of colleagues	Opportunities to develop confidence in peer-interaction are provided and formative discussion occurs. Formal summative assessment is made through reflective writing. Oral presentation and placement report. Team skills assessment.
	<b>6</b>	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Execution of project, participation in student conference, production of "Scientific Paper" and <i>Viva voce</i> . Interaction with technical team regarding obtaining equipment.	<i>Viva voce</i>
	<b>7</b>	<ul style="list-style-type: none"> <li>Biological Research Assistantship</li> <li>Placement</li> <li>Advanced Research Methods</li> </ul>	60 60 30	K K C	Execution of project, participation in peer, production of "Scientific Paper" and <i>Viva voce</i> . Interaction with technical team/workplace colleagues regarding planning, obtaining equipment and meeting set targets.	'Work-in-Progress' talks Reflective report Peer Review
<b>Independence of thought</b>	<b>4</b>	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Subject specific presentation of their choosing. Completion of a reflective portfolio on skills development.	Subject specific presentation of their choosing. Reflective portfolio on skills development.

	5	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Placement are obtained through independent action and thinking by the student. Self-evaluation of knowing 'how they are doing' and 'what further needs doing' in terms of assessed assignments resides primarily with the student. Collaborative learning environments will guide students in developing aspects of independent thinking	Both oral presentation and placement report require independent thinking and will be demonstrated through problem solving, reflection and enquiry learning outcomes
	6	<ul style="list-style-type: none"> <li>Project</li> </ul>	30	C	Execution of project	"Scientific Paper" <i>Viva voce</i>
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	The design and planning of the project and contribution to the peer review process will help students refine and display independence of thought.	Project methodology, design and plan
<b>Skills of team working</b>	4	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Belbin test, team work activity workshop, team executed mini research project.	Poster, reflective portfolio on skills development.
	5	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Student – led tutorials, group activities in designing and developing scientific experiments will all involve team work	Competence assessment that must be passed informs the final summative action plan.
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Interaction with technical team regarding obtaining equipment	
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Interaction with technical team/workplace colleagues regarding	Data presentation and discussion.

					planning, obtaining equipment and meeting set research targets. Group discussions and peer review exercises will help students develop the wider context of science which is fundamentally a generically team focussed endeavour.	Peer review
<b>Ability to carry out inquiry-based learning and critical analysis</b>	<b>4</b>	<ul style="list-style-type: none"> <li>• Introduction to Scientific Practice</li> </ul>	30	C	Team executed mini research project.	Poster
	<b>5</b>	<ul style="list-style-type: none"> <li>• Professional Practice and Placement</li> </ul>	30	C	The scientific careers search model and the scientific approach to new knowledge generation are both enquiry based and require critical analysis. Action planning	Oral presentation and placement report
	<b>6</b>	<ul style="list-style-type: none"> <li>• Research Project</li> </ul>	30	C	The project.	“Scientific Paper” <i>Viva voce</i>
	<b>7</b>	<ul style="list-style-type: none"> <li>• Advanced Research Methods</li> </ul>	30	C	The development of data analysis techniques and the iterative development of the project plan will provide the student with the vehicle to inquire, learn and refine their scientific approach.	Project methodology, design and plan
<b>Skills of problem solving and creation of opportunities</b>	<b>4</b>	<ul style="list-style-type: none"> <li>• Introduction to Scientific Practice</li> </ul>	30	C	Team executed mini research project, reflection on personal skills and attribute development	Poster, reflective portfolio on skills development.
	<b>5</b>	<ul style="list-style-type: none"> <li>• Professional Practice and Placement</li> </ul>	30	C	Identifying opportunities, showing creativity and innovation are all part of scientific progress. Identifying and utilising placement opportunities and	Placement report

					recognising personal growth	
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	The project.	“Scientific Paper” <i>Viva voce</i>
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Formulating a relevant scientific hypothesis, exploring the opportunities to refine and answer that hypothesis and the subsequent designing of an experimental regimen to test the hypothesis will allow a multi-faceted display of opportunity identification, creation and problem solving.	Project methodology, design and plan
<b>Technologically, digitally and information literate</b>	4	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Development of core skills. Research for mini-project and presentation, presentation of data for the mini-project.	Competency test, Project poster.
	5	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Literature, placement searching. Statistical calculation, and data treatment. Identifying career, placement and reflective literature	Oral presentation and placement report
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Data analysis and information searching needed for practitioner level project engagement.	“Scientific Paper”
	7	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	Data analysis and information searching needed for practitioner level project planning.	Data presentation and analysis portfolio
<b>An understanding of the concepts of</b>	4	<ul style="list-style-type: none"> <li>Introduction to Scientific Practice</li> </ul>	30	C	Demonstration of competencies. SWOT analysis, use of feedback diary.	Competency test, reflective portfolio on skills

<b>life-long learning and life-long success</b>						development.
	<b>5</b>	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	Awareness of the changing global issues such as, employability, professional development and scientific discovery, encourages the recognition for the need to continue learning and to be able to recognise and evaluate what is 'success' in terms of the students own professional practice and identify.	Placement report Team skills assessment
	<b>6</b>	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	The self-development and discovery linked to an original investigation, coupled with the nature of scientific advancement will force the student to recognise the importance of life-long learning to successes within the scientific arena.	
<b>7</b>	<ul style="list-style-type: none"> <li>Advanced Research Methods</li> </ul>	30	C	The self-development and discovery linked to formulating an original hypothesis and planning an original investigation, coupled with the nature of scientific advancement and collaborative effort will encourage the student to recognise the importance of life-long learning to success within the scientific arena.		