



# Course Handbook

BSc (Hons) Pharmaceutical Science

BSc (Hons) Pharmaceutical Science with Sandwich Year

# Contents

	<b>Section</b>	<b>Page</b>
	Sources of Additional Information	1
<b>1.</b>	Welcome	2
<b>2.</b>	Your course team	3
<b>3.</b>	An introduction to your course – aims and intended learning outcomes	4
<b>4.</b>	The structure of your course	6
<b>5.</b>	The Staffordshire Graduate and Employability	7
<b>6.</b>	Learning, teaching and assessment on your course	8
	6.1 Learning and Teaching	8
	6.2 Assessment	9
	6.3 Placements and work-based learning	9
	6.4 Placements	10
	6.5 How to submit assessments	11
	6.6 Feedback on your work	13
	6.7 External examiners appointed to your course	14
<b>7.</b>	Communication	14
<b>8.</b>	Support and Guidance (Including Personal Tutoring)	14
<b>9.</b>	The Student Voice	15
<b>10.</b>	Rules and Regulations	16
	Appendices	17

# 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
- 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.

## 1. Welcome

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

The Faculty is home to the three subject based Schools in its title. As well as our on-campus students we have many students who are learning away from our University campuses in Staffordshire. They include learners studying with national and international educational partners, work-based learners studying in their workplace, and distance learners from around the UK and across the globe. This all means you are now a student in one of the largest technology based faculties in the UK and we are delighted that you are one of our students.

The Faculty's School of Computing offered the first ever UK bachelor degree in computing back in 1965 and has maintained a high reputation for its courses ever since. Our science programmes which are some of the most highly rated by students in the UK, and our engineering courses are founded upon the needs of engineering employers and offer excellent employment opportunities. Your course of study will therefore be up to date and relevant, will be serviced by well qualified staff, and will 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 apply yourself to your studies but we are also here to help you to succeed. As such please do not hesitate to take advantage of the ready access you have to excellent staff, facilities, and student support services. Inevitably at the start of all study programmes you will be bombarded with a host of well-intentioned information. Some of that information is important straight away and will help enable you to start your studies successfully and be in the right place at the right time. Other information you will need later in your course, such as assessment information, module information, how to make extenuating circumstance claims and where to go to if you need specialist guidance. We suggest that you download this handbook and keep it for future reference. In that way, it should be the first document of your own e-archive and it is useful to get into the habit of downloading essential documents like module descriptors and module handbooks when the course starts.

I hope that your time with us will be both enjoyable and rewarding and if you work hard we will provide what help and support we can so that you can succeed as a Staffordshire Graduate.

Very best wishes,

Professor Hastings McKenzie – Dean

## 2. Your Course Team

**Award Leader:** Dr Neil Lamont, R140, 01782 294098, n.a.lamont@staffs.ac.uk

As the Award Leader, I am responsible for the smooth running of the award and am available to help with any general academic issues you may have.

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

<b>Academic</b>	<b>Room</b>	<b>Telephone</b>	<b>Email</b>
Dr Rob Barrington	R203	294845	r.barrington@staffs.ac.uk
Dr Sue Bird	R112	294408	s.j.bird@staffs.ac.uk
Dr David Cadagan	R203	295870	david.cadagan@staffs.ac.uk
Mr Ian Davies	R115	295922	j.i.davies@staffs.ac.uk
Dr Peter Gowland	R115	294581	p.c.gowland@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
Dr Mark Tonge	R142		mark.tonge@staffs.ac.uk
Mrs Anne Turner	R115	295922	a.m.turner@staffs.ac.uk
Dr John Wheeler	R104	294690`	j.w.wheeler@staffs.ac.uk
Dr. Sarah Williams	R113	295829	sarah.williams@staffs.ac.uk

<b>Technical Staff</b>	<b>Room</b>	<b>Area of expertise</b>
Sue Avery	R236	Physiology
Paul Bailey	R327	Chemistry
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

[http://www.staffs.ac.uk/academic\\_depts/sciences/people](http://www.staffs.ac.uk/academic_depts/sciences/people)

### 3. An Introduction to your Course

Pharmaceutical Science is an integrated study of the human body at a molecular level, exploring the science of health and illness and how this can be managed through drugs. Together with this it studies the discovery, design, delivery and production of drugs, including aspects such as their testing, regulation, and quality assurance by analytical science.

The BSc(Hons) Pharmaceutical Science course aims to:

- Provide you with an in depth understanding of the molecular and cellular nature of the human body through study of the underpinning biological and chemical science. This will emphasise the various biochemical, physiological and other processes that contribute to good health and how these are controlled under normal circumstances.
- Identify and understand what occurs in the human body when things go wrong due to, for example, disease, infection or illness, and how these may be prevented or cured by the action of drugs.
- Build a clear understanding of drugs and medicines, their structures, discovery and development, their biological delivery and activity, and their testing, regulation, production and quality assurance by analytical methods.

In addition, the BSc(Hons) Pharmaceutical Science with a Sandwich Year course aims to:

- Provide you with the opportunity to experience at first hand the skills, knowledge and attributes that are required to become a successful employee in the pharmaceutical industry and to develop yourself in these areas, thus enhancing your employability upon graduation.

As you progress through your studies on the BSc(Hons) Pharmaceutical Science you will have the opportunity to consider transferring to our MSci Pharmaceutical Science course. The MSci course focusses on creating highly desirable work-ready and high functioning science graduates ready to contribute to scientific discovery and its application. Furthermore, the MSci course presents you with the unique opportunity to undertake either a research internship or industry-relevant work experience placement, both of which will enhance your subject specific and employability skills. Therefore, on graduation you will be well-placed to use your skills as a proficient and professional scientist in pursuing a research degree, or in a range of higher level occupations within or beyond the pharmaceutical industry. In order to transfer you will need to have achieved at least a lower second class level at the end of your level 6 studies, i.e. an overall average mark of at least 50%.

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

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.

## 4. The Structure of your Course

### BSc(Hons) Pharmaceutical Science

Level 4	Teaching Block 1	BIOL40586 Introduction to Scientific Practice (30)	BIOL40427 Molecules to Cells (30)	BIOL40433 Biological Processes (15)	BIOL40667 Intro to Pharm Sci (15)
	Teaching Block 2		FORE40330 Chemical Principles for Pharmaceutical Science (30)		

Level 5	Teaching Block 1	BIOL50445 Professional Practice and Placement (30)	BIOL50435 Human Biochemistry and Physiology (30)	BIOL50436 Genetics and Cell Biology (30)	FORE50333 Drug Discovery, Design, and Synthesis (15)
	Teaching Block 2				FORE50332 Characterisation and Analysis of Drugs (15)

### Sandwich Placement Year

(for students enrolled on the BSc(Hons) Pharmaceutical Science with a Sandwich Year)

Level 6	Teaching Block 1	BIOL60648 Pharmaceutical Science Research Project (30)	Specific Option	BIOL60646 Drug Testing, Trials and Legislation (15)	FORE60352 Analysis and QA of drugs (15)
	Teaching Block 2		Specific Option	BIOL60647 Global Pharmaceuticals industry (15)	BIOL60649 Drug Formulation and Delivery (15)

### Specific Options

- BIOL60613 Medical Genetics (15)
- BIOL60614 Clinical Immunology (15)
- BIOL60618 Cellular Pathology (15)
- BIOL60619 Clinical Biochemistry (15)
- BIOL60620 Toxicology (15)
- BIOL60622 Neuropharmacology (15)

## 5. The Staffordshire Graduate and Employability

The Staffordshire Graduate represents a set of qualities that the University passionately believes is necessary for success in the 21st century. The Staffordshire Graduate is a reflective and critical learner with a global perspective, prepared to contribute in the world of work.

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

As a Pharmaceutical Science undergraduate 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 discipline of pharmaceutical science. 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 the broad science 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 their 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

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 a global construct and as a pharmaceutical science undergraduate 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 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 medical approaches.

## 6. Learning, Teaching and Assessment on your Course

### 6.1 Learning and Teaching

The academic content of these courses are delivered over 6 semesters on-campus, primarily on a face-to-face basis, with each academic year commencing in September. Direct contact hours will vary depending upon options modules chosen and the level of study you are currently undertaking but these courses require full-time engagement in order that all independent and group study, assessments and other work can be completed.

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 pharmaceutical science 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. In Level 6 more specialist practical skills are developed via your independent research project.

Throughout your award theory and practice are integrated and many sessions will combine short lectures/seminars 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; it is also about, amongst other things, being adaptable, enterprising, able to solve problems, self-managed, and with the ability to work and communicate effectively with others both within the sciences but also within a wider ethical and commercial framework. These skills reflect upon 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.

While all modules to varying degrees will address some of these aspects, both Levels 4 and 5 include an overarching 30-credit module which will focus on these skills. This will be achieved via a mixture of workshops and tasks, some carried out independently, both of which are integrated with a tutorial programme that runs throughout the academic year, and culminates in a placement 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 each level of study you will be supported through our integrated tutorial system. At levels 4 and 5 the tutorials are embedded within 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.

For those of you enrolled on the BSc (Hons) Pharmaceutical Science with a Sandwich Year you will commence your work towards preparing yourself for and securing the placement at the start of Level 5 (your second year). With the support of staff in the Careers Network you will enhance your skills that are appropriate to the success of your placement search and completion. Throughout this stage of your course you will build towards commencement of your Sandwich Year at the end of Level 5 and will be supported during your Sandwich Year by Tutor assigned to you for this purpose. This tutor will also ensure that you are well informed about the return to your studies at the University once you have completed the Sandwich Year.

## 6.2 Placements and Work-Based Learning

We place a large emphasis upon work experience placement opportunities and this is a major part of your learning.

At level 5 your compulsory placement will introduce you to the world of work by spending 3 weeks (or the equivalent) in a relevant workplace.

If you take the Sandwich Year you will spend up to 12 months as an integral part of a company involved in pharmaceutical science. This provides you with the opportunity to experience at first hand the skills, knowledge and attributes that are required to become a successful employee in the pharmaceutical industry and to develop yourself in these areas, thus enhancing your employability upon graduation.

## 6.3 Assessment

The assessments are designed to assess the knowledge, understanding and skills relevant to a career in pharmaceutical science and are progressively structured. For example, the number of assessments you attempt will reduce as you progress through the levels to reflect their more professionally demanding nature and also

your development as scientists and autonomous learners with developing skill sets. Typically at levels 6 you will have one assignment per 15 credits.

Assessment will be by a mixture of coursework and exams. Coursework assessments are varied and may include producing web pages, wikis, scientific articles, posters, presentations, literature reviews and video diaries. They are all designed to develop and assess a range of skills relevant to the scientific practitioner and their subsequent development and employment. Practical skills will be assessed both directly via tests of competency during various laboratory techniques, and also indirectly via the production of lab-based reports.

In Level 4 examinations will assess your breadth of knowledge and understanding of the fundamental concepts of the discipline, whilst in Levels 5 and 6 there will be a greater emphasis upon your ability to analyse, synthesise and evaluate ideas, and to develop arguments.

The Sandwich Year is assessed by a combination of a placement supervisors report, placement tutor report and your own placement report that you complete before you continue into the final year of your studies.

#### 6.4 Placements

Within the Pharmaceutical Science course we encourage our students doing a placement year between levels 5 and 6. The placement give you the chance to work in a company and make use of the skills and knowledge which you have developed over the last two years. Everything which we do at the university is designed towards giving you the skills you will need once you graduate. The placement year is your opportunity to try this and experience working in the industry. We have a dedicated team of staff who only have the role of helping you get these placements. You can choose what sort of company you want to work for from large multinationals in Europe through to smaller colleges located close the area where you live. We endeavour each year to get as many companies as possible coming to the university to ask for students. You will need to apply for these positions and you will be competing not only against students from this university but very often from other locations as well. The reason why our students usually do well in these interviews as discussed before you have the practical and technical skills the companies require and the placements team help you with items such as the CV. The placement year allows you to learn skills such as time management, quality procedures which although lectured on at the university do need to be experienced within the industry context.

The Faculty Placements Team are located within the Careers Network that is within the Trent Building on Leek Road. The staff in this office are very helpful and assist in a number of issues in getting your placement. It is worth going along just to talk to them to have a chat and see what is available to you. They can assist you in all areas of the placement from finding one in the first place, how to present your CV, how to do well in a interview, through to any issues which you might have whilst you are on the placement.

Mrs Maria-Louise Feenan  
Room: XXXX, Trent Building  
Phone: 01785353257  
Email: [M.Feenan@staffs.ac.uk](mailto:M.Feenan@staffs.ac.uk)

The member of academic staff responsible for placements on your award is:

Dr  
Room:  
Phone:  
Email:

Dr XXXX is the lead academic with the placement issues. If you do have any problems or issues you wish to discuss on this then do go and see him about this.

During the academic year there will be a number of sessions given by Dr XXXX and the placement team. Please do attend these sessions as useful information is given to assist you with your placement hunting. The positions which are available through the university will be advertised on the Blackboard Community pages so please do check these regularly. In addition though if you want to apply for other companies please ask for guidance from the placements staff who will be able to help you. Within our awards we have had some very exciting placements where a student has simply written a letter to a company to ask if they have any positions.

### 6.5 How to Submit Assessments

You will normally be required to hand in written assignments relating to School of Sciences' modules to the Student Information Point (Cadman Building) and / or via the Blackboard VLE. Instructions for the submission of practical assignments will be included in the relevant module handbooks.

**It is your responsibility to ensure that you submit assignments on time and at the appropriate place.**

Written assignments should have stapled to them an *assignment receipt form*. Please ensure that you fill in *all* sections, particularly the module title and tutor's name.

Note that some assignments are marked anonymously, and that you are asked to fold and stick down the right hand flap of the assignment receipt form to conceal your name before handing in your work to the Faculty Office. This is an important tool in helping to safeguard the integrity of the assessment process. Anonymous marking, however, is usually confined to conventional essay type assessments, as with other kinds of assessment (for example, a presentation report or dissertation) the tutor would normally be aware of the author's identity.

If you have a learning support agreement which recognises dyslexia as a disability make sure that you ask for one of the yellow labels to attach to your work to signal

to the tutor that the assignment needs to be marked on content and understanding rather than on syntactical and grammatical competence.

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. 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 Course Leader / Personal Tutor to authorise this. Your Course Leader / Personal Tutor will use the test of 'reasonableness' in agreeing to any further extension.

The form you will complete is in duplicate. It is most important that you use a biro so that both copies are marked. Having completed it go into the Office where a member of staff will date stamp and sign both copies of the form and return one copy of it to you.

**KEEP THIS SAFE! IT IS A RECEIPT, WHICH YOU CAN PRODUCE TO SHOW THAT YOU HAVE SUBMITTED YOUR ASSIGNMENT.**

We would normally expect you to hand in your work in person, but recognise that this may not always be possible. If you are unable to hand in your written assignments in person, you can submit them via the post, using recorded delivery. This is important as should your work not arrive, we need to be able to find out what happened to it. All work which is submitted in this way will be dated according to the postmark.

**YOU SHOULD ALSO NOTE THAT NO WORK WILL BE ACCEPTED WHICH HAS BEEN SENT BY FAX OR E-MAIL.**

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

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/extenuating/>

### **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. In this day and age there are a number of cloud based resources which can be

used for free giving you a separate backup area, Google Drive, Dropbox, Microsoft Live and many others

## 6.6 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.

The University's Academic Board has been considering the outcomes of the last National Student Survey and discussing how it can provide quicker assessment feedback to students. This guidance refers to summative (actual) rather than formative (practice) assessments. In relation to this, the following has been agreed:

### **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 some 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.

### **Formal University examinations**

Feedback for examinations will always be provided and should be available as soon as possible after the relevant examination. Where appropriate, feedback on examinations at the end of the last teaching block in the final year should be provided in the form of generic, group feedback through the University VLE. 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.

### 6.7 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. More information on the role performed by external examiners can be found at: [www.staffs.ac.uk/externalexaminers/](http://www.staffs.ac.uk/externalexaminers/)

The external examiner for your course is:

Provide the: name, job title and home institution of the AWARD external examiner. Details of relevant module external examiners should be included within module handbooks.

It is not appropriate for you to make direct contact with your external examiner.

## 7. Communication

In most cases, if a member of the course team needs to contact you they will do so via email using your University email account. It is important that you check your university email account regularly as important information is sent to this account. Occasionally the University may need to contact you via telephone. To this end please do keep the university up to date with your personal details.

Course/Module specific information may also be communicated via Blackboard and again it is important that you regularly log in to check for updated information.

If you have a query about anything then the first point of contact should be the relevant member of the course. The Science staff have an open door policy and you can approach them face-to-face at any time within usual working hours, or alternatively use email to arrange an appointment if this is your preferred method.

## 8. Support and Guidance

You will be allocated a personal tutor within the first few weeks of starting at the university. This person is there for you to discuss any issues which you are having with the course. There will be a number of times when you will be emailed to attend a meeting with your tutor. Do not though consider that this is the only time you can speak to them. All of the personal tutors are usually happy to speak to people, if you just email them to get a good mutual time. You will have the same personal tutor during your entire time at the university, except for when you are on industrial placement.

If you are on a sandwich degree you will be allocated a tutor who will assist you during your industrial placement. This may not be the same tutor which you have while at the university but this person will be assuming the same role if you need advice or support.

Personal Development Planning (PDP) is essential so that you can develop while you are at the university in the way you want. This is not just developments academically it also considering personal achievements. We are very keen for you to get the most out of your course and the time you spend with us. A lot of students will have one focus in their mind when they join us but as we go through the award and see how different aspects work this will change. One of the big aspects of the placement is to allow you to develop and see a lot more within this specialist subject area. The final year project is a very good learning experience to allow you to move into the direction which suits you the best. This can be seen as good professional development and you will be able to use to discuss with employers about your specialist skills set. Your personal tutor is there to help you with the discussion on the options and will also be able to help. Please do attend your tutor meetings and have a discussion a lot of students are surprised at how much help the personal tutor can offer.

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/).

Your Sandwich Year placement will help quite considerably with your personal development and you will gain a lot of additional skills in this environment which simply cannot be taught in any academic environment. A lot of the student feedback after the placement that it was this time which really showed them where they wanting to go within the field. At the university we do teach you a large of information from a field which is ever growing. You will find that people will often not be someone who deals with everything, but very often will specialised in only one aspect of the field. The placement helps you with this to see what it is like to work within that area.

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 Students' Union provides independent, impartial and confidential advice to students free of charge. More information on the Students' Union can be found at: <https://www.staffsunion.com/>

## **9. 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 to continuously improve the classes that we deliver to you. We also encourage every students to not just to wait until the end of a module to come and talk to us about issues. A lot of things which might concern you we can resolve quickly and this will improve both yours and

our experience of teaching modules. If you do not want to talk to the award leader please talk to any of the key staff which are listed in section 2 of this document

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 PTES and DLHE can be used to compare across courses and universities.

Course 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 or more students who are 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. At the start of the year you will be asked if you would like to get involved in the liaison committees and we would encourage more people than less to attend this.

## 10. 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>

Course specific regulations:

- Module BIOL60648 Pharmaceutical Science Research Project cannot be compensated
- It is a requirement that the work placement at level 5 (part of BIOL50445 Professional Practice and Placement) is undertaken – failure to do so will result in failure of this award.
- Optional Transfer onto the MSci award – At the end of level 6, by application of the current University Regulations, your overall attainment must be equivalent to or better than that needed to obtain a Second Class Lower Division award on the equivalent BSc (Hons) course to enable you to transfer onto level 7 of the MSci Pharmaceutical Science; if this is not the case you will remain on the BSc(Hons) Pharmaceutical Science and exit with the appropriate classification.

## Appendix A – Award Learning Outcomes

What will this programme teach me to do? At the end of your studies you should be able to:

<b>Knowledge and Understanding</b> Demonstrate advanced knowledge and understanding of a complex body of biological and chemical principles, concepts and theories, which extends beyond the directly taught programme, at least some of which is at the forefront of these scientific disciplines Demonstrate your understanding of how the human body works, the action of drugs upon it and the reaction of the body to these, and the operation and role of the pharmaceuticals industry in today's society
<b>Learning</b> Recognise and take account of the ambiguity and provisional nature of knowledge when drawing conclusions and evaluating information within pharmaceutical science
<b>Enquiry</b> Select, evaluate and apply appropriate techniques to conduct scientific investigations safely and ethically, and interpret, evaluate and present the data produced
<b>Analysis</b> Describe and comment upon research or advanced scholarship in pharmaceutical science, and critically evaluate arguments and assumptions to make judgements
<b>Problem Solving</b> Develop questions to achieve a solution (or identify a range of solutions) to a complex problem or series of problems, such as when developing a new drug to counter a known condition
<b>Communication</b> Communicate effectively and confidently, in various formats, complex ideas and reasoned arguments
<b>Application</b> Apply advanced knowledge, understanding, methods and techniques, some of which are at the forefront of the discipline, to an understanding of pharmaceutical science
<b>Reflection</b> Demonstrate personal responsibility, manage your own learning, and exercise initiative in complex and unpredictable circumstances

## Appendix B – Level Learning Outcomes

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 BSc (Hons) and MSci Pharmaceutical Science. Modules are core unless indicated otherwise.

Modules	Knowledge & understanding	Learning	Enquiry	Analysis	Problem Solving	Communication	Application	Reflection	Teamwork
Level 4									
Introduction to Scientific Practice (30 Credits)									

<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>	<b>Teamwork</b>
1. Carry out enquiry based learning and critical analysis by demonstrating an awareness of personal 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</b>									

<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>Teamwork</b>
<b>Level 4</b>									
<b>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	✓	✓							
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>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>Introduction to Pharmaceutical Science (15 credits)</b>									

<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>Teamwork</b>
<b>Level 4</b>									
1. Demonstrate an understanding of the scope of pharmaceutical science and the disciplines it subsumes	✓								
2. Discuss the pathway from drug discovery through to patient use, emphasising the main activities and outcomes of each stage		✓							
3. Discuss the historical development of pharmaceuticals, from ancient to modern times, and describe the factors that have made developments possible				✓					
4. For a chosen drug, demonstrate an awareness of its history, pharmacology and synthesis			✓			✓			
<b>Chemical Principles for Pharmaceutical Science (30 credits)</b>									
1. Show a knowledge and understanding of fundamental aspects of chemistry	✓	✓							
2. Obtain and analyse scientific results in the laboratory in a competent and safe manner		✓							
3. Analyse and communicate scientific findings in a written intelligible form				✓		✓			
4. Demonstrate an understanding of basic mathematical concepts	✓								

<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>	<b>Teamwork</b>
5. Demonstrate an understanding of mathematical concepts and their application to solving problems					✓				
6. Reflect on personal development of knowledge and skills								✓	

<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>Teamwork</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.	✓				✓	✓	✓	✓	

<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>Teamwork</b>
<b>Level 5</b>									
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 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	✓		✓				✓		

<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>Teamwork</b>
<b>Level 5</b>									
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>									
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					✓				

<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>Teamwork</b>
<b>Level 5</b>									
5. Communicate effectively the background and outcome of the topics in this module						✓			
<b>Characterisation and Analysis of Drugs (15 credits)</b>									
1. Demonstrate a knowledge and understanding of a range of current analytical techniques, equipment, their application and limitations	✓	✓		✓			✓		
2. Operate a range of modern analytical equipment and interpret, critically evaluate and report experimental results			✓		✓				
3. Work effectively as part of a team, making contributions to group work, and production of a group portfolio	✓	✓				✓			✓
4. Communicate knowledge in the form of written reports; appropriately interpret analysis results, showing understanding of their significance and the underpinning theory					✓	✓	✓		
<b>Drug Discovery, Design and Synthesis (15 credits)</b>									
1. Discuss elements of the drug discovery process that lead to the identification of new drug candidates	✓								
2. Describe the three dimensional structures	✓								

<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>Teamwork</b>
of organic molecules, paying particular reference to their stereochemistry									
3. Understand and explain reactions in organic chemistry that result in the synthesis of new molecules		✓							
4. Discuss the methodologies undertaken that lead to the laboratory synthesis of selected drugs and/or natural products							✓		
5. Undertake laboratory synthesis, purification and characterisation of a range of organic compounds				✓					

<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>Teamwork</b>
<b>Pharmaceutical Science Research Project (30 Credits)</b>									
1. Gather, synthesise, summarise and critically evaluate information and evidence including current research and then use that information to support and develop arguments	✓	✓							
2. Safely and ethically execute appropriate practical techniques to conduct a			✓				✓	✓	

<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>Teamwork</b>
pharmaceutical 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 pharmaceutical scientist						✓			
<b>Cellular Pathology (15 Credits) Option</b>									
1. Describe the microscopic appearances of cells and tissues and relate these to underlying disease processes	✓					✓			

<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>Teamwork</b>
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) Option</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>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>Teamwork</b>
<b>Clinical Immunology (15 Credits) Option</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) Option</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		✓		✓					

<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>Teamwork</b>
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>Toxicology (15 credits) Option</b>									
1. Communicate knowledge of toxicants, the problems they cause and the techniques needed to assess and measure their impact.	✓					✓			
2. Demonstrate the ability to analyse data then evaluate and link the findings of the analysis in a scientifically appropriate manner to the world at large.			✓	✓	✓				
<b>Neuropharmacology (15 Credits) Option</b>									
1. Demonstrate a systematic understanding and knowledge of the function of the	✓								

<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>Teamwork</b>
central nervous system									
2. Recognise and accurately demonstrate current knowledge of neuropharmacology , within a constant brain environment, in terms of endogenous ligands, prescribed drugs and receptors	✓								
3. Thoughtfully question and challenge viewpoints, ideas and concepts relating to the brain environment particularly at the level of the synapse			✓	✓					
4. Integrate theoretical concepts with examples							✓		
<b>Drug Testing, Trials and Legislation (15 credits)</b>									
1. Demonstrate a knowledge and understanding of the methodologies used at the different stages of drug trials	✓								
2. Evaluate, assess and develop drug trial methodology with reference to appropriate legal and regulatory frameworks		✓	✓						
3. Provide considered opinion and critical analysis of ethical issues within clinical				✓				✓	

<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>Teamwork</b>
drug trials									
4. Interpret, evaluate and present data to support discussion of safe and effective drug trials				✓		✓			
<b>Drug Formulation and Delivery (15 credits)</b>									
1. To understand various formulation and technological strategies to enhance and optimize drug delivery through various routes	✓						✓		
2. Be able to evaluate the various approaches to sustain and control drug delivery		✓							
3. To understand and discuss the limitations of drug delivery methods				✓	✓				
<b>Analysis and Quality Assurance of Drugs (15 credits)</b>									
1. Demonstrate a knowledge and understanding of a range of current analytical techniques, equipment, and their application.	✓	✓							
2. Apply the principles of quality assurance to the interpretation of data generated by a range of analytical techniques					✓		✓		
3. Communicate knowledge in the					✓	✓	✓		

Modules Level 6	Knowledge & understanding	Learning	Enquiry	Analysis	Problem Solving	Communication	Application	Reflection	Teamwork
form of written reports; appropriately interpret analysis results, showing understanding of their significance and the underpinning theory.									
<b>Global Pharmaceuticals Industry (15 credits)</b>									
1. Discuss the nature of the global pharmaceuticals industry in depth	✓								
2. Critically appraise the strategies, successes and failures of the pharmaceuticals industry within recent years		✓	✓						✓
3. Produce an industry standard report on an aspect of the pharmaceuticals industry						✓			

Modules Level 7	Knowledge & understanding	Learning	Enquiry	Analysis	Problem Solving	Communication	Application	Reflection	Teamwork
<b>Advanced Research Methods (30 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>	<b>Teamwork</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>Advanced Pharmaceutical Science (30 credits)</b>									
1. Research and disseminate information about current advances in pharmaceutical science	✓		✓						
2. Critically evaluate the development and activity of new drugs		✓		✓					
3. Use prior and up-to-date understanding to propose new drug solutions for known health issues, providing in depth scientific justifications as necessary					✓		✓		
<b>Pharmaceutical Science Research Assistantship (60 Credits) Option</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						✓	✓	✓	

<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>Teamwork</b>
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 addressing the research questions posed and deliver an oral presentation summarising important aspects of your work						✓		✓	
<b>Pharmaceutical Science Placement (60 credits) Option</b>									
1. Demonstrate ability to work at an advanced level, evaluate issues, communicate and learn effectively working with an organisation that delivers professional pharmaceutical science related products or service		✓			✓	✓		✓	

<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>Teamwork</b>
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								✓	

## Appendix C – The Staffordshire Graduate

### THE STAFFORDSHIRE GRADUATE

The Staffordshire Graduate represents a set of qualities that the University passionately believes is necessary for success in the 21<sup>st</sup> century. The Staffordshire Graduate is a reflective and critical learner with a global perspective, prepared to contribute in the world of work.

The table below indicates where, within your award, these characteristics are addressed:

<b>AWARD TITLE:</b>	<b>BSc(Hons) Pharmaceutical Science</b> <b>BSc(Hons) Pharmaceutical Science with a Sandwich Year</b>
---------------------	---

<b>Attribute Characteristic</b>	<b>Level</b>	<b>Module(s) code: title</b>	<b>No of Credits</b>	<b>Core or Option</b> C / K / O	<b>Brief description of activity / activities</b>	<b>How is achievement 'assessed'?</b> (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> <li>Chemical Principles for Pharmaceutical Science</li> </ul>	30 30	C C	Development of core laboratory, data handling and statistical analysis skills	Demonstrating competency (team and individual) Reflective Portfolio Examination

	<b>5</b>	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> <li>Characterisation and Analysis of Drugs</li> </ul>	30 30	C C	Professional practice/identify is explored in terms of 'being a professional' in work and employment. Design of practical investigation.	Oral presentation. Placement Report Laboratory portfolio
	<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>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.
	<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. Focused workshops embed the need for enterprise and entrepreneurship in both the industrial and wealth creation dimension but also	Oral presentation. Placement Report

					as fundamental traits within the basic scientific skill set.	
	6	<ul style="list-style-type: none"> <li>• Research Project</li> <li>• Global Pharmaceuticals Industry</li> </ul>	30 15	C C	<p>Students need to identify novel approaches and solutions in order to complete the work, expanding on Level 5 development.</p> <p>Exploration of global enterprise and entrepreneurship in the pharmaceuticals industry</p>	<p>"Scientific Paper" <i>Viva voce</i> Group Presentation</p>
		•				
<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> <li>• Introduction to Pharmaceutical Science</li> </ul>	30	C	<p>Attendance at a series of 'key note' lectures delivered by staff and guest speakers some of which will cover issues relating Pharmaceutical Science within a global perspective. The content will also highlight the opportunities of a biological science student within an international employment market.</p>	<p>Within the team executed mini-research project and/or the individual presentation on a pharmaceutical science topic of their choice.</p>

	5	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	30	C	<p>Employability, professional development and scientific discovery 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.</p>	<p>Professional practice and the development of professional identify are assessed within the oral presentation and placement report</p>
	6	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	<p>Students are working as a scientific professional and thus draw upon and</p>	<p>"Scientific Paper" <i>Viva voce</i></p>

					communicate to the global audience.	
		•				
<b>Communication skills</b>	<b>4</b>	• 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.
	<b>5</b>	• Professional Practice and Placement	30	C	The module encourages peer-interaction, oral presentation and written reflective pieces and video production	Oral presentation and placement report
	<b>6</b>	• Research Project • Global Pharmaceuticals Industry	30 15	C C	Participation in student conference Group research presentation	"Scientific Paper" <i>Viva voce</i> Industry standard reporting
		•				
<b>Presentation skills</b>	<b>4</b>	• 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	<ul style="list-style-type: none"> <li>Professional Practice and Placement</li> </ul>	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	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	Participation in student conference, production of "Scientific Paper" and <i>Viva voce</i>	"Scientific Paper" <i>Viva voce</i>
<b>The ability to interact confidently with colleagues</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 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.
	6	<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>
		<ul style="list-style-type: none"> <li></li> </ul>				
<b>Independence of thought</b>	4	<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.	Both oral presentation and placement report require independent thinking and will be demonstrated through problem solving, reflection and enquiry learning outcomes

					Collaborative learning environments will guide students in developing aspects of independent thinking	
	6	• Project	30	C	Execution of project	"Scientific Paper" <i>Viva voce</i>
		•				
<b>Skills of team working</b>	4	• Introduction to Scientific Practice	30	C	Belbin test, team work activity workshop, team executed mini research project.	Poster, reflective portfolio on skills development.
	5	• Professional Practice and Placement	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	• Research Project	30	C	Interaction with technical team regarding obtaining equipment	
		•				
<b>Ability to carry out inquiry-based learning</b>	4	• Introduction to Scientific Practice	30	C	Team executed mini research project.	Poster
	5	• Professional Practice and Placement	30	C	The scientific careers search model and the scientific	Oral presentation and placement report

<b>and critical analysis</b>					approach to new knowledge generation are both enquiry based and require critical analysis. Action planning	
	<b>6</b>	<ul style="list-style-type: none"> <li>Research Project</li> </ul>	30	C	The project.	"Scientific Paper" <i>Viva voce</i>
		<ul style="list-style-type: none"> <li></li> </ul>				
<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 recognising personal growth	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>
		<ul style="list-style-type: none"> <li></li> </ul>				
<b>Technologically, digitally and</b>	<b>4</b>	<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,	Competency test, Project poster.

<b>information literate</b>					presentation of data for the mini-project.	
	<b>5</b>	<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
	<b>6</b>	<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"
		<ul style="list-style-type: none"> <li></li> </ul>				
<b>An understanding of the concepts of life-long learning and life-long success</b>	<b>4</b>	<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 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	Placement report Team skills assessment

					professional practice and identify.	
	<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.	
		<ul style="list-style-type: none"> <li>•</li> </ul>				