

## Nottingham Trent University Course Specification

<b>Basic Course Information</b>		
1	Awarding Institution:	Nottingham Trent University
2	School/Campus:	Science and Technology/Clifton campus
3	Final Award, Course Title and Modes of Study:	<b>MBiol (Hons) Pharmacology</b> <b>BIOL284 FT BIOL285 SW</b>
4	Normal Duration:	4 years FT or 5 years SW
5	UCAS code:	B211, B212

### 6 **Overview and general educational aims of the course**

MBiol Pharmacology is an Integrated Master's degree that combines undergraduate and postgraduate study. It is designed to provide you with a multidisciplinary approach to the study of the action of drugs on the body. It is intended for students with a clear drive and ambition to progress into a professional scientific career in industry or academia, and is also tailored to provide knowledge, technical skills and research expertise for progression onto PhD level studies. The course will provide you with great depth and breadth in the discipline of pharmacology, and prepare you for a wide range of careers. It will help you to stand out in the jobs market.

Pharmacology provides you with opportunities to study the pathophysiology and pathopharmacology of cells, tissues and organ systems and includes substances that are used for medicinal reasons as well as those that are used for pleasure and illicitly. You will study the key aspects of drug action in both practical and theoretical contexts and utilise these when considering the positive and negative effects of pharmaceutical products.

We offer you high quality, modern facilities for practical work and lectures. Practical work forms a significant proportion of learning in order to ensure that you have extensive skills for employment or research. The course provides you with the opportunity to study pharmacology in more detail in conjunction with either physiology or neuroscience. You do this by selecting the appropriate modules at Levels 5 and 6.

The final year is devoted to a year-long project in which you will devise, plan and carry out a substantial piece of scientific research, working in one of our advanced laboratories. You will become part of our research team and receive expert supervision from internationally recognised scientists.

The course is delivered as a series of modules, and you are required to pass 120 credits (cp.) at levels 4, 5, 6 and 7. An MBiol degree is awarded to students who successfully complete 480 credit points.

This course is offered in full time mode (four years) and Sandwich mode (5 years). In the latter you will typically spend year 3 on placement working in the private or public sector in a role that is aligned with your course.

Overall, MBiol Pharmacology aims to provide you with an interesting and enjoyable educational experience at a higher-level than is possible on a BSc course by:

- Offering content that will encourage and assist you to realise your potential by means of an applied and creative approach to solving scientific problems.
- Developing a broad and deep knowledge and systematic understanding of biology and its related disciplines, and the skills to apply this knowledge at the forefront of the discipline.
- Providing you with the opportunity, in a cutting-edge research laboratory, to develop the skills of an independent researcher, from literature review, through study design and execution, to scientific communication.
- Imparting the specialised knowledge and skills necessary to prepare you for further study in a research-focussed environment
- Equipping you with the critical analysis, understanding, qualities and attributes necessary for a wide range of careers in industry, commerce, teaching, and research.

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#### **Course outcomes**

Course outcomes describe what you should know and be able to do by the end of your course if you take advantage of the opportunities for learning that we provide.

**Knowledge and understanding.** By the end of the course you should be able to:

- CLO1 Demonstrate a comprehensive knowledge and systematic understanding of the concepts, principles and theories of pharmacology.
- CLO2 Demonstrate deep understanding of developments, applications and limitations of pharmacology across a variety of areas, some of which are at, or are informed by, the forefront of the discipline.
- CLO3 Critically assess and implement appropriate investigative and statistical techniques required to solve a range of problems in creative and innovative ways.
- CLO4 Exercise sound judgement, show initiative, and demonstrate an appreciation of the complex ethical issues that arise from biological applications, and how debate informs concern about the quality and sustainability of life.
- CLO5 Demonstrate the abilities of an independent researcher, by conducting a substantial and original programme of investigation from literature review, through design, execution and analysis to scientific communication.
- CLO6 Make appropriate and informed career management choices in preparation for professional employment or doctoral studies in pharmacology.

**Skills, qualities and attributes.** By the end of the course you should be able to:

- CLO7 Apply scientific principles and methodologies in investigations.
- CLO8 Select, use, and critically evaluate appropriate information using digital and traditional resources.

- CLO9 Work independently or as part of a team, developing leadership capacity and the ability to work both autonomously and collaboratively.
- CLO10 Show a high level of competence in the use of advanced equipment, materials and computing resources
- CLO11 Demonstrate application of numerical skills by acquisition, analysis, interpretation and evaluation of data from a variety of sources.
- CLO12 Develop critical skills in the interpretation of complex scientific knowledge, future developments and their applications.
- CLO13 Be effective and confident in the communication of scientific concepts to a range of audiences by presenting material to professional standards.
- CLO14 Demonstrate the skills required to effectively manage their workload and time and reflect appropriately on their own performance.
- CLO16 Advance scientific knowledge and understanding by devising and carrying out a substantial piece of original scientific research.

#### **8. Teaching and Learning Methods**

In the great majority of modules, your teaching and learning are focused on lectures supported by practical, laboratory classes. Much of the theory introduced in lectures is consolidated through these laboratory sessions and through group seminars. Lecture material is supported through e-resources. The University Virtual Learning Environment (NOW) is widely used to post summary slides of lectures, links to resources such as articles and recent research papers and information about the organisation of modules and the course.

Opportunities will exist for you to enhance your communication skills by writing reports in various formats, by producing posters and by giving oral presentations to your colleagues.

Laboratory classes focus on hands-on acquisition of practical skills in the application of key principles, concepts and methods in pharmacology. Laboratory sessions involve problem solving, data collection and observation. In some complex pharmacological areas, computer simulations are used to convey the essential components involved with learning those subjects. Further time is allocated to the analysis, interpretation and evaluation of the results both inside and outside those practical classes. In this way you will develop your skills to undertake self-directed study and to become autonomous, independent learners. You will also be expected to carry out supplementary reading and research to consolidate taught material.

During the course of your studies you will assemble a skills portfolio. This portfolio will prove useful when completing your CV and when applying for positions at the end of the course.

## 9 **Assessment Methods**

The course uses a variety of assessment methods to enable you to demonstrate achievement of the learning outcomes. Subject knowledge and understanding is mainly tested through tests and examinations, preparation of case studies, write-ups of laboratory practical work, oral and poster presentations. Laboratory investigations are used to assess a range of intellectual and practical skills. Your ability to test hypotheses, observe, collate, present, interpret and evaluate findings of an investigation is assessed through the preparation of laboratory reports.

Your communication skills, in written and oral formats, are assessed at numerous points throughout the course. Laboratory reports, poster presentations, essays and examinations provide you with an opportunity to demonstrate your writing skills. Oral presentations and verbal defences of posters offer a means for you to demonstrate your verbal communication skills while the poster itself allows for graphical and spatial skills to be expressed.

You will also be given written feedback on your assessed work to help you to develop your effectiveness as a learner and to help you to achieve your goals.

## 10 **Course structure and curriculum**

The Master of Biology, MBiol Pharmacology degree is offered in full time mode (four years) and sandwich mode (five years). In the latter you will typically spend year 3 on placement working in the private or public sector in a role that is aligned with your course. Teaching and learning take place for 26 weeks with the last 4 weeks of each year being set aside for examinations. An exception to this is in the final year of the course, when projects will continue and be written up to the end of term, there being no end of year examinations.

The MBiol Pharmacology degree is modular-based and addresses key aspects of pharmacology. The modules selected on the degree are designed to meet the course learning outcomes. Modules are mainly 20 cp unless otherwise stated and classified either as core or option. At Levels 4 and 7, all modules are core (compulsory). At Levels 5 and 6, most modules are core but there is an optional module. This provides flexibility within the curriculum for you to specialise in either physiology or neuroscience. All modules on the degree are taught throughout the year, with the exception of Living Systems, Practical Techniques for Biology and Science Communication, which are taught in the first term of the first and fourth years respectively. The remaining Level 4 modules are completed over terms 2 and 3.

The structure of the curriculum is outlined below with an indication of the module status (i.e. C = core; O = option)

### **Level 4**

- Living Systems (C)
- Practical Techniques for Biology (C)

- Genetics and Immunology (C)
- Introduction to Biochemistry (C)
- Human Physiology (C)
- Introduction to Pharmacology (C)

#### **Level 5**

- Bioinformatics and Biomathematics (C)
- Experimental Design (C)
- Pathophysiology (C)
- Drugs of Addiction and Abuse (C)
- Pathopharmacology (C)

#### ***One module from:***

- Neuroscience (O)
- Physiology (O)

Optional industrial placement year for sandwich students

#### **Level 6**

- Honours Project (40cp) (C)
- Toxicology (C)
- Clinical Pharmacology (C)

This module contains an optional extra section to provide understanding of the legislative framework and Home Office Modules 1-3 training. It covers the Animals (Scientific Procedures) Act 1986 (ASPAs) and its subsequent revisions.

- Current Topics in Pharmacology (C)

#### ***One module from:***

- Current Topics in Neuroscience (O)
- Current Topics in Physiology (O)

#### **Level 7**

- Science Communication (C)
- MBIol Research Project (100cp) (C)

In order to progress from level 4 to level 5, you should have a minimum of a pass or a compensated pass in all of your first year modules at the first sitting. To progress from level 5 to level 6 and from level 6 to level 7 you must aggregate 60% each year, passing or having a compensated pass at the first sitting of all modules. The rationale behind setting a requirement for maintaining a minimum 2.1 standard after the first year is confidence that an MBIol is a mark of high achievement, high employability, and preparedness for an outstanding career.

If you do not pass all of your modules first time, or (at levels 5 and 6) attain 60% overall, you will transfer to the Honours Degree course in Pharmacology. If you do not pass all modules at level 7, but have passed level 6, you will be considered for award of an Honours Degree in Pharmacology (or an Ordinary degree in Pharmacology on completion of 120cp at levels 4 and 5 plus 60cp at level 6). Boundary conventions will apply if you aggregate up to 2% below 60%.

Students with a compensated pass will receive further consideration as to the relevance of the compensated subject area before there is agreement to proceed with the MBIol. If you have low marks at level 4, you will be counselled about your prospects on the course, and be given the option of transferring to BSc Honours Pharmacology should you so wish.

Information on awards and degree calculations can be found at  
[https://www4.ntu.ac.uk/adq/document\\_uploads/quality\\_handbook/138197.pdf](https://www4.ntu.ac.uk/adq/document_uploads/quality_handbook/138197.pdf)

## 11 Admission to the course

For current information regarding all entry requirements for this course, please see the 'Applying' tab on the course information web page.

## 12 Support for Learning

All students at Nottingham Trent University have full access to Student Support Services. In addition, School-based pastoral support networks are in place to offer all students support, guidance and advice on academic and personal issues. Within the course, students experience the full support of the Biosciences Academic Team. The Academic Team Leader, with support from the Course Leader, Level Tutors, Module Leaders and academic staff teaching on these modules take responsibility for student support for learning. In Welcome Week new entrants will experience a minimum of a three-day induction period at the commencement of their first academic year. Induction will inform students of:

- Student Support Services at University, School and Course level;
- University policies and procedures on academic systems;
- Personal development planning;
- Timetable issues, room allocations and location;
- University, School and Course Handbooks;
- Enrolment procedures;
- Computing, IT and Library services;
- Health and Safety procedures.

In Welcome Week you will be assigned a personal tutor who will meet with you in a small group in the first year and provide you with any advice and support that you may need. The tutorials are timetabled and are designed to help you reflect on your approach to study, make connections between modules and encourage you to achieve your maximum potential. Tutorials are also used for personal development planning and skills development.

Extensive online module information including learning materials is provided on the university virtual learning environment (NOW). This also includes course information such as the course handbook and assessment deadlines.

The University provides a wide range of student services, where you can get support and advice on issues such as finance, dyslexia and disability, and personal problems  
[http://www.ntu.ac.uk/student\\_services/index.html](http://www.ntu.ac.uk/student_services/index.html)

University Accommodation Officers will provide you with information, guidance and continuing support about accommodation issues, for example hall of residence, private rented accommodation and the Landlord Approval Scheme. The Accommodation Services can be accessed through [www.ntu.ac.uk](http://www.ntu.ac.uk).

If you take the opportunity to undergo industrial training, you will be supported by the Placements Office staff and a named academic staff supervisor.

### 13 Graduate destinations/ employability

Graduate employability is fundamental to the strategic aims of Nottingham Trent University – NTU is consistently placed close to the top of the league tables of all UK universities for graduate employment

This degree is designed for students with a clear ambition to progress into a professional scientific career in industry or academia. Career opportunities for graduates include research and development in pharmacology in the pharmaceutical industry, universities and hospitals, and postgraduate study or research. There are also, non-laboratory based careers such as in clinical trials and regulatory affairs.

### 14 Course standards and quality

- The Course Committee, with staff and student representatives, operates to discuss matters arising on the course, review module feedback and consider the course report and external examiners' comments.
- Teaching in the School of Science and Technology is regularly reviewed by the University.
- The subject benchmarks of the Quality Assurance Agency have been incorporated into the course's learning outcomes.

Overarching responsibility for quality control lies with the School Academic Standards and Quality Committee whose remit is to provide guidance and support to academic courses. External Examiners offer further quality control through monitoring academic standards, moderation of assessment tasks and processes.

### 15 Assessment regulations

This course is subject to the University's Common Assessment Regulations (located in its [Academic Standards and Quality Handbook](#)). Any course-specific assessment features are described below:

For automatic progression to the next level, MBiol students must show a satisfactory performance at levels 4, 5 and 6, achieving a pass or compensated pass in all modules at the first sitting. In addition, to progress on the MBiol from levels 5 and 6, an aggregate mark of 60% must be attained each year.

<p>Students who successfully complete 120cp at levels 4, 5 and 6 but fail to complete level 7 may be awarded an Honours Degree in Pharmacology (usual classifications apply). Due to the structure of level 7, there is currently no opportunity to award a Postgraduate Certificate following partial completion of level 7.</p> <p>Students who successfully complete a period of industrial training and pass the assessments will be awarded a Diploma in Professional Practice at the termination of their studies at either MBiol or Honours level. This diploma is rated at Placement level P3 (120cp) but does not contribute credits towards the degree.</p>												
<p>16 <b>Additional Information</b></p> <table border="0"> <tr> <td>Collaborative partner(s):</td> <td>None</td> </tr> <tr> <td>Course referenced to national QAA</td> <td></td> </tr> <tr> <td>Benchmark Statements:</td> <td>Biosciences</td> </tr> <tr> <td>Course recognised by:</td> <td>Recognition by the Society of Biology will be sought once the course is running.</td> </tr> <tr> <td>Date implemented:</td> <td>September 2015</td> </tr> <tr> <td>Any additional information:</td> <td>None</td> </tr> </table>	Collaborative partner(s):	None	Course referenced to national QAA		Benchmark Statements:	Biosciences	Course recognised by:	Recognition by the Society of Biology will be sought once the course is running.	Date implemented:	September 2015	Any additional information:	None
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