

<script>dataLayer.push({'course\_title':' Pharmacology (PHS1)}');</script>

<h1 class="pageTitle"> Pharmacology (PHS1) </h1>  
<h2> </h2>

<p>Pharmacologists study the nature, actions and uses of drugs. This degree starts you on the road to a highly active field of research.</p><p><h3></h3></p>

<div style="text-align:center;padding-top:10px;"><p><strong><em>Curricular information is subject to change</em></strong></p></div>

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        <span class="noPrint">Show/hide content</span>  
    </p>

## Vision and Values

<p>This aim of this programme is to educate and train students in the discipline of Pharmacology to pursue careers in scientific research, the pharmaceutical sector, education and related professional degrees. We value students who are expert, independent, critical thinkers, motivated to acquire and develop a deep-understanding of drugs, their mechanisms and applications.&nbsp; We aim to provide a learning environment combining state of the art laboratories and research facilities and multifaceted teaching methodologies that encourage questioning and investigational skills with an integrative approach to problem solving. Our graduates will exemplify academic integrity, with excellence in laboratory skills and core competencies in research.</p>

## Subject Description

### Programme Outcomes

- 1 - Develop a critical knowledge of pharmacological principles, drugs, their mechanism of action, experimental and therapeutic uses.
- 2 - Apply new and emerging modalities including gene and cell therapies for therapeutic benefit.
- 3 - Effectively and accurately communicate the science of pharmacology to the scientific and wider communities verbally and in writing.
- 4 - Understand the research method and apply new practical skills and knowledge of experimental methods in pharmacology.
- 5 - Critically analyse scientific process of increasing complexity and use evidence based approaches to interrogate pharmacological problems.
- 6 - Apply and integrate contemporary, multidisciplinary knowledge to the investigation of pharmacology.
- 7 - Understand and comply with current policies on the rights of research subjects, copyright, ethics, malpractice, data ownership and use of animals.
- 8 - Appreciate how scientific hypotheses and research outcomes result in novel therapeutics.
- 9 - Interpret, analyse and organise scientific data accurately and precisely.
- 10 - Integrate theoretical, experimental and clinical pharmacology to promote the discipline of pharmacology in its fullest diversity and to foster basic research and the development of theory.

## Non-standard Progression Requirements

### Additional Standards for Continuation

Approved Additional Standards for Continuation in undergraduate degree programmes in Science (all majors):

Students who return failing grades in a semester amounting to 15 credits, or more, will be identified under the UCD Continuation and Readmission Policy. Students whose rate of progression and performance over two academic sessions (2 years) is deemed unacceptable will be referred to the Academic Council Committee on Student Conduct and Capacity for exclusion from the programme.

## Understanding your Degree

Pharmacologists study the nature, actions and uses of drugs. This degree starts you on the road to a highly active field of research.

Pharmacology deals with the study of drugs and their action on living systems. A drug is any substance that is given to a human or animal with the intention of changing the state of its body function: to relieve pain, treat cancer, eliminate infection or improve health. A science-based pharmacologist is concerned with investigating how drugs act at different biological levels, ranging from cells and genes up to tissues and even human populations.

Pharmacology is also concerned with the use of drugs as investigative tools to obtain a better understanding of cellular and physiological processes in

both health and disease. Toxicology is an important component of the discipline of Pharmacology. This is the study of the harmful effects of chemicals, including drugs, pesticides and toxins, on living organisms.

As a discipline, therefore, Pharmacology underpins many of the medical advances that have led to improvements in the quality of life for us all.

## Mapping your Degree

### STAGE 1

Stage 1 of the BSc Pharmacology degree includes core modules in Biology, Chemistry and Mathematics. Since drugs are chemicals, and since the cellular processes that they modify are chemical / biochemical in nature, the pharmacologist requires some knowledge of Chemistry, Biology and Physiology, as well as Mathematics and Statistics.

With the exception of Mathematics, it is not necessary for you to have studied these subjects before coming to UCD; the modules studied in Stage 1 will ensure that all students have sufficient understanding of the relevant basic sciences to master the discipline of Pharmacology.

### STAGE 2

In Stage 2 you begin your studies in Pharmacology in depth. Topics covered include pharmacodynamics (how drugs work at a molecular level), pharmacokinetics (what the body does to drugs), the effects of drugs on the different body systems, endocrine and immune pharmacology, genetics and biotechnology. In addition, you will also have an opportunity to take other modules in related biomedical sciences such as Biochemistry, Microbiology or Physiology, or in Chemistry.

### STAGE 3

Areas studied in Stage 3 include chemotherapy, toxicology, drug treatment of endocrine and neurodegenerative and psychiatric diseases, advanced CNS pharmacology and molecular pharmacology.

### STAGE 4

As you progress to Stage 4, the modules you study are increasingly based on 'hot topics', introducing you to the many exciting developments taking place in the field of Pharmacology and related disciplines.

Topics include:

- Receptor-based cell signalling
- Developmental biology/pharmacology
- Ophthalmological pharmacology
- Cancer biology and pharmacology
- Advanced neuropharmacology
- Drug discovery

In addition to these courses, you also gain direct research experience by undertaking a laboratory-based research project.

### PROFESSIONAL WORK EXPERIENCE

A limited number of opportunities exist for you in Stages 2 and 3 to gain additional laboratory experience during the summer holiday period; funded schemes are organised by public and private bodies, e.g. The Irish Health Research Board and The Wellcome Trust (UK). In addition, occasional opportunities arise within individual research groups.

## International Study Opportunities

You may apply to study abroad for either a semester or a year through the Erasmus programme or on a non-EU exchange.

UCD has over 200 Erasmus partners in Europe and an increasing number of non-EU exchange agreements with universities in the USA, Canada, Australia, Japan and elsewhere.

Please visit the Erasmus section by clicking on the International Office link at the top of this page.

## Career Opportunities

Pharmacology graduates pursue careers in many different fields. Career opportunities include:

- Research in institutes, universities or the pharmaceutical industry
- Management
- Product development, registration or marketing within the pharmaceutical industry
- Regulatory agencies involving drug information / registration
- Publishing and science journalism
- Teaching

## Further Information & Contact Details

Dr K. M. O'BoyleUCD Conway Institute of Biomolecular & Biomedical ResearchBelfield, Dublin 4Tel: +353 1 716 6744/6760Email: Web: [www.ucd.ie/horizons](http://www.ucd.ie/horizons)

## Major Information by Stage

Stage 3

Students take eight core modules and at least two optional modules. Additional option modules can be selected from the list below or alternatively, students can select 10 credits from elective modules.

Stage 4

Students take a total of 60 credits of modules (core and options) from within the Stage 4 Pharmacology programme.

## View All Modules

Module ID	Module Title	Trimester	Credits
Stage 3 Core Modules			
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
Stage 3 Options - A)MIN2OF:			
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
Stage 4 Core Modules			
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5

View All Modules (continued)

Module ID	Module Title	Trimester	Credits
Stage 4 Options - A)1 OF: Students taking BMOL40090 (Research Project Erasmus) OR BMOL40200 (Industry Research Project) are exempt from Autumn core modules in their respective disciplines. These students should select additional option modules in Summer to a total of 60 credits.			
		2 Trimester duration (Aut-Spr)	25
		2 Trimester duration (Aut-Spr)	25
		2 Trimester duration (Aut-Spr)	20
		Autumn	15
Stage 4 Options - B)MIN1OF: Students taking BMOL40100 should select two modules from Set B. Students taking PHAR40020 should select one module from Set B			
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5

Degree GPA and Award Calculation Rules

<strong>See the UCD Assessment for further details</strong><hr>  
<strong>Module Weighting Info </strong><a data-toggle="modal" data-target="#hubModal" href="W\_HU\_REPORTING.P\_DISPLAY\_QUERY?p\_query=CB-MODAL&p\_parameters=1CF76AE4799C0C1ACB48799F5B73AA942A1542AA52500EBEF1F6A0460FE40DC2A1DB03C051277070806206FCA8A6C6B395D4FBDB6547E273F6836ABBC0F93ACC4D69740EAAE2F94B210B142E12B78BC8DDDD8B7FF9072277F3C6A2599CB6637C660A8618A8E604F3913365B0DAEA22DD925395A4E44B2DB3FA6C274873E43A1B3246BF9DD5D1955FE1FFDD4BECE37B3A22182BE8D44BE8C05CE0BB0A1866F29F4CE75B309F9153E144135A96D8BA0C74CBFB23A40A78F82EEEF7FAB30A3B7EC370FBDCE1EB1EF3229548A4208488FD36B4B10C7DAEA4242F6C7A32A1106A4283E"><i class="fa fa-info-circle las la-info-circle" style="font-size:20px;color:#007eb5"></a>

		Award		GPA	
Programme	Module Weightings	Rule Description	Description	>=	<=
BHSCI001	Stage 4 - 70.00% Stage 3 - 30.00%	Standard Honours Award	First Class Honours	3.68	4.20
			Second Class Honours, Grade 1	3.08	3.67
			Second Class Honours, Grade 2	2.48	3.07
			Pass	2.00	2.47

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Pharmacology (PHS1) </h1><h3 class="printOnly">Academic Year 2019/2020</h3> <p class="printOnly"><em>The information contained in this document is, to the best of our knowledge, true and accurate at the time of publication, and is solely for informational purposes. University College Dublin accepts no liability for any loss or damage howsoever arising as a result of use or reliance on this information.</em></p>  
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<dd>Biomolecular & Biomed Science</dd>
<dt>Attendance:</dt>
<dd>Full Time</dd>
<dt>Level:</dt>
<dd>Undergraduate</dd>
<dt>NFQ Level:</dt>
<dd>8</dd>
<dt>Programme Credits:</dt>
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Core/Option: 55
Electives: 5
<strong>Stage 2</strong>
Core/Option: 50
Electives: 10
<strong>Stage 3</strong>
Core/Option: 50
Electives: 10
<strong>Stage 4</strong>
Core/Option: 60
Electives: 0
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<dt>Major/Minor Core & Option Credits:</dt>
<dd>Stage 3: 50
Stage 4: 60
</dd>
<dt>Mode of Delivery:</dt>
<dd>Face-to-Face</dd>
<dt>Programme Director:</dt>
<dd>Assoc Professor John Crean</dd>
</dl>
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