<script>dataLayer.push({'course_title':' Medicinal Chemistry & Chemical Biology (BMS1)'});</script>

<h1 class="pageTitle"> Medicinal Chemistry & Chemical Biology (BMS1) </h1>
<h2> </h2>

These intriguing sciences can also be described as the `chemistry of life and medicine'. <h3></h3>

Curricular information is subject to change

Show/hide content

Vision and Values

The aim of the programme is to provide a broadly-based based education in the knowledge and skills needed by students to pursue careers in the range of sectors underpinned by chemical science and technology.   Furthermore, the programme will detail a range of topics that explain the essential interface between chemistry and biology, enabling the development of an interdisciplinary scientist who will be a pivotal figure for the (bio)pharmaceutical industry. Graduates from this programme will have the capacity to apply their chemical and biological knowledge and skills, creativity, and critical thinking to solve problems of scientific, therapeutic and social importance, and to generate new knowledge. We provide a stimulating and supportive learning environment, in which students develop their knowledge and understanding of Chemistry as an enabling science. Immersed in a research-intensive environment, located in state-of-the-art facilities, students will work individually and in teams, and engage in cutting-edge projects that will hone their critical thinking, communications, autonomous learning, and technical skills. In addition to lectures, laboratory classes and tutorials, we use a range of student-centred, active-learning activities, including workshops, case studies, seminars, and team-based projects, culminating in research projects in which students are embedded in academic research teams to work on leading-edge problems in either medicinal chemistry or chemical biology. Both the core material and the transferrable skills acquired in the programme are assessed,using a range of techniques, including assessment of laboratory skills and reports, assessment of presentations, assessment of team work, and assessment of a research thesis and of an oral thesis defense, in addition to in-class tests and written examinations.

Subject Description

Programme Outcomes

1 - Demonstrate a broad and balanced knowledge and appreciation of key concepts in chemistry, medicinal chemistry and chemical biology.

2 - Safely and effectively carry out a range of modern experimental procedures.

3 - Apply their theoretical and practical skills, and adopt a rigorous and rational approach, to solve problems in the field.

4 - Describe and communicate problems relating to drug design, structure-activity relationship, and discuss chemical processes holistically from also from an environmental and perspective.

5 - Engage imaginatively, analytically, and creatively with the molecular basis of matter to understand the materials and processes inherent in the natural world.

6 - Predict, design and develop the new therapeutics and processes that will be critical to promoting and ensuring health and well-being, and sustainable global progress and prosperity.

7 - Design and implement efficient, safe and sustainable methods for the synthesis of molecules and therapeutics.

8 - Develop and employ quantitative methods for the measurement, characterisation, and analysis of the structure and dynamics of molecular systems.

9 - Understand the nature of scientific research and be able to design, plan and execute research projects.

10 - Demonstrate an intellectual, critical, ethical and professional approach to Chemistry, Medicinal Chemistry and Chemical Biology, and in their thinking generally.

11 - Demonstrate an aptitude for life-long, self-directed learning as well as collaborative learning in professional settings throughout their careers.

12 - Exhibit the potential for taking leadership roles in their future careers, and in addressing complex societal and global challenges, especially those relating to new pharmaceuticals and greener routes to synthesis.

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

This degree programme combines intriguing sciences that can be described as the 'chemistry of life and medicine'.

With its enormous impact on biology and medicine, Chemical Biology will undoubtedly lead to further discoveries and inventions that will become widely adopted in clinical practice. Consider such Nobel Prize-winning accomplishments as the discovery of penicillin (Fleming, Florey and Chain, Hodgkin) and the determination of the structure of DNA (Watson and Crick).

Chemical Biology & Medicinal Chemistry are fields populated by chemists who have a good understanding of biology at the molecular level. They will be of increasing importance for decades to come to address existing and emerging healthcare problems (for example cancer, AIDS, TB and avian flu).

Chemical biologists and medicinal chemists will develop the next generation of medicines to solve such problems and will have an impact across a wide range of areas, including the development of environmentally friendly approaches to process chemistry.

Mapping your Degree

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

As graduates of the UCD Medicinal Chemistry and Chemical Biology degree, you will be equipped with the skills required to pursue a career in any avenue of biomedical research, including the pharmaceutical and biotechnological industries, forensic science, clinical laboratories and research institutes.

Further Information & Contact Details

Prof. Stefan Oscarson, UCD Centre for Synthesis and Chemical Biology, Belfield, Dublin 4Email: stefan.oscarson@ucd.ieDr Francesca Paradisi, UCD Centre for Synthesis and Chemical Biology, Belfield, Dublin 4Tel: +353 1 716 2967Email: francesca.paradisi@ucd.ie Web: www.ucd.ie/horizons

Major Information by Stage

Stage 3
-Students must select 7 core modules and at least 3 options. -Additional modules may be selected from the Option Modules list below or alternatively, students may select 10 credits of elective modules.

Stage 4
-Students take 60 credits of modules (core and options) from within the BSc programme. -Students take the research project and four core modules (40 credits) and four options (20 credits).

View All Modules

Module ID	Module Title	Trimester	Credits
Stage 3 Core Modules			

View All Modules (continued)

Module ID	Module Title	Trimester	Credits
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
Stage 3 Options - A)MIN3OF: Select at least 3 options			
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
Stage 4 Core Modules			
		2 Trimester duration (Aut-Spr)	20
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
Stage 4 Options - A)MIN4OF: Select four options from the list below. Please Note: Students who have successfully completed SCI30080 will be registered to the module by the relevant School.			
		Autumn	5
		Autumn	5
		Autumn	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5
		Spring	5

Degree GPA and Award Calculation Rules

See the UCD Assessment for further details<hr>
Module Weighting Info <a data-toggle="modal" data-target="#hubModal" href="W_HU_REPORTING.P_DISPLAY_QUERY?p_query=CB-MODAL&p_parameters=1CF76AE4799C0C1ACB48799F5B73AA94D5728CE59C17B80E4B1417B5F2AAE72DFD6B02A14491D64D8D7942FBD86EFC64048B98AC796F06E27EDBD76D868625DC174B2316AFEB87E6406587E453454620260D3F1A51B630F198FB8A6027991690FDF4AD7477BB08DF0BA1618F1ED7AAFC09BEAECE192A45EE183F47822DED54AC6638E1EE3517ABE5BAEC23D6F61050E31F3CF6D0255E5C54FB142B13D6D00ACF45B964CBB766B24A71016297B57E32654B63D65B904A45E36504B76FDAD9DFE783C62B20DF0EAFCD2FEF5698BC07880D46AB6B683EBE556E2A82A8FA26C40593"><i class="fa fa-info-circle las la-info-circle" style="font-size:20px;color:#007eb5">

		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

<nav class="white-box no-left-arrow zero-top-margin">
<h1 class="printOnly"><img src="https://www.ucd.ie/t4cms/ucdcollegesandschools_logo.png"> UCD Course Search

Medicinal Chemistry & Chemical Biology (BMS1) </h1><h3 class="printOnly">Academic Year 2019/2020</h3> 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.
<h3 class="noPrint"> Medicinal Chemistry & Chemical Biology (BMS1)</h3>
<IMG class="noPrint"
src=W_HU_REPORTING.P_WEB_IMAGE?p_parameters=D21438044CE64016147D220C01A3C23148CC6AE21515950FA37D68ED4346B0D7DB8239BF53447D97671FFC583E8AC090A0C5F620A2C8D43F141661EDC283B9615F5D38C28510DA23BB57E4A0B4FA6DFA WIDTH=100%>

<dl>
<dt>School:</dt>
<dd>Chemistry</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>
<dd>Stage 1
Core/Option: 55
Electives: 5
Stage 2
Core/Option: 50
Electives: 10
Stage 3
Core/Option: 50
Electives: 10
Stage 4
Core/Option: 60
Electives: 0
</dd>
<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>Professor Stefan Oscarson</dd>
</dl>
</nav>
<button class="noPrint menubutton" onclick="window.print()"><i class="fa fa-print fa-fw"> Print Page</button>
(is recommended when printing this page)