Overview of this presentation

Your Degree Programmes

Our Professional Training Year (PTY)

Our Research
Modular Bioscience Programmes

8 Modules (120 credits) per year

Semester system:
» Autumn: October-January
» Spring: February-June
» Christmas & Easter breaks
» January and June exams
» Compulsory & optional modules
» Some Programme flexibility
Let’s talk about your choice
BSc (Hons) Biochemistry

The study of fundamental processes of life at the molecular and cellular level:

» Metabolism in health & disease
» Endocrinology
» Pharmacology & Toxicology
» Neurobiology

Accredited by the Royal Society of Biology
MSci (Hons) Biochemistry

» Taking BSc Biochemistry to a higher level
» Studies application to real research problems in Biochemistry
» Four taught modules plus 50% research
» Undergoing RSB accreditation
BSc (Hons) Biomedical Science

Explore the science that underpins and advances clinical practice and treatment of disease

» IBMS accredited
» Clinical focus
BSc (Hons) Microbiology

The study of microscopic life forms

During this programme you will study:

» The diseases that microbes cause, and how they infect us
» How the immune system works, and what happens when our defences fail
» How infections spread, and how we control them
» The role of the human microbiome
» Microbes in biotechnology; food, and industrial processes.
MSci (Hons) Biomedical Science

» To be launched September 2020

» Advancing the BSc with an additional year

» Medical research and pathology focus, including skills for professional scientists

» (120 credits), including four taught modules plus 50% research project

» Undergoing IBMS accreditation
How the BSc and MSci programmes work

BSc
Biochemistry
Biomedical Science

Year 1
Year 2
Final Year

Year 1
Year 2
PTY
Final Year

Year 1
Year 2
BSc Final Year

Year 1
Year 2
PTY
BSc Final Year

MSci
Biochemistry
Biomedical Science

Year 1
Year 2
Final Year

Year 1
Year 2
Final Year

MSci
# Teaching and Assessment

## Contact time

<table>
<thead>
<tr>
<th>Year</th>
<th>Contact Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 1</td>
<td>20 – 25 hours per week</td>
</tr>
<tr>
<td>Year 2</td>
<td>15 – 20 hours per week</td>
</tr>
<tr>
<td>Year 3</td>
<td>about 15 hours per week + project</td>
</tr>
</tbody>
</table>

## Modes of Delivery

- Lectures
- Tutorials
- Lab-based practicals
- Role plays
- Small group work

## Assessment methods

- Examinations
- Essays/ written work
- MCQs
- Presentations
- Practical write-ups
## Level 4 modules (first year)

<table>
<thead>
<tr>
<th>Module</th>
<th>Biochemistry</th>
<th>Biomedical Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOCHEMISTRY: UNDERSTANDING THE CHEMISTRY OF LIFE</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>CELL BIOLOGY</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>CURRENT TOPICS IN BIOSCIENCES</td>
<td></td>
<td>Compulsory</td>
</tr>
<tr>
<td>EXPLORING BIOCHEMISTRY</td>
<td>Compulsory</td>
<td></td>
</tr>
<tr>
<td>MICROBIOLOGY: AN INTRODUCTION TO THE MICROBIAL WORLD</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>BIOCHEMISTRY - A CONCEPTUAL OVERVIEW</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>EVOLUTIONARY ORIGINS OF BIODIVERSITY</td>
<td>Compulsory</td>
<td></td>
</tr>
<tr>
<td>INTRODUCTION TO PRINCIPLES OF PHYSIOLOGY AND PRACTICAL SKILLS</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>MOLECULAR BIOLOGY AND GENETICS - GENES AND THEIR FUNCTION</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>PRACTICAL AND BIOMEDICAL BACTERIOLOGY</td>
<td></td>
<td>Compulsory</td>
</tr>
<tr>
<td>Module</td>
<td>Biochemistry</td>
<td>Biomedical Science</td>
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<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>BIOCHEMISTRY - ENZYMES AND METABOLISM</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>CELLULAR MICROBIOLOGY AND VIROLOGY</td>
<td>Optional</td>
<td>Compulsory</td>
</tr>
<tr>
<td>INTEGRATION OF PHYSIOLOGICAL SYSTEMS</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>MOLECULAR BIOLOGY AND GENETICS: FROM GENES TO BIOLOGICAL FUNCTION</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>NEUROSCIENCE, FROM NEURONES TO BEHAVIOUR</td>
<td>Optional</td>
<td>Compulsory</td>
</tr>
<tr>
<td>ANALYTICAL AND CLINICAL BIOCHEMISTRY</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>INTRODUCTION TO IMMUNOLOGY</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>MICROBIAL COMMUNITIES AND INTERACTIONS</td>
<td></td>
<td>Optional</td>
</tr>
<tr>
<td>PATHOLOGY AND MEDICINE</td>
<td>Compulsory</td>
<td>Compulsory</td>
</tr>
<tr>
<td>PHARMACOLOGY: INTRODUCTION TO DRUG ACTION</td>
<td>Compulsory</td>
<td>Optional</td>
</tr>
</tbody>
</table>
How you will study - facilities and opportunities
Professional Training Year (PTY)

We find the placements

» All students can opt for PTY
» ~60% of students choose PTY
» Paid & unpaid placements
» Tuition fee significantly reduced
» 2-3 tutor visits
» - does not count towards degree classification
## Recent PTY Placements

<table>
<thead>
<tr>
<th>United Kingdom</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanofi</td>
<td>Belgium: Leuven</td>
</tr>
<tr>
<td>Shepherd Neame</td>
<td>Italy: Milan, Sardinia</td>
</tr>
<tr>
<td>Royal Surrey County Hospital</td>
<td>Denmark: Lindholm</td>
</tr>
<tr>
<td>Medpharm</td>
<td>Finland: Turku, Kuopio, Helsinki</td>
</tr>
<tr>
<td>LGC Forensics</td>
<td>Sweden: Kalmar, Lund</td>
</tr>
<tr>
<td>GlaxoSmithKline</td>
<td>France: Paris, Lyon</td>
</tr>
<tr>
<td>Cardiff Medical School</td>
<td>Australia: Sydney</td>
</tr>
<tr>
<td>Plymouth Hospital</td>
<td>Germany: Potsdam, Bonn, Frankfurt</td>
</tr>
<tr>
<td></td>
<td>Holland: Amsterdam, Groningen</td>
</tr>
</tbody>
</table>

|                               | USA: New York, Boston, North Carolina        |
|                               | China: Shanghai                              |
Undergraduate students contribute to research

Histamine H₂-receptor signaling in cardiac sympathetic nerves: Identification of a novel MAPK-PLA₂-COX-PGE₂-EP₃R pathway

Roberto Levi*, Nabil Seyedi*, Ulrich Schaefer*, Elina Estephan*, Christina J. Macbiens*, Simon Tyler* and Randi B. Silver*

*Department of Pharmacology, Weill Cornell Medical College, New York, NY 10021, United States

Absence of phosphoglucone isomerase-1 in retinal photoreceptor, pigment epithelium and Muller cells

Simon N. Archer*, Poonam Ahuja*, Romeo Cai², Catherine Trilk¹, Russell G. Foster², Thea van Veen² and Malcolm von Schantz³

The 5' untranslated region of Rhabdophissue padi virus contains an internal ribosome entry site which functions efficiently in mammalian, plant, and insect translation systems.

Mickaël N. Lefèvre, Belachew S. Alen, Carter M. Jones, S. Donavan Lo.

Inter-individual Differences in Habitual Sleep Timing and Entrained Phase of Endogenous Circadian Rhythms of BMAL1, PER2 and PER3 mRNA in Human Leukocytes

Simon N. Archer, PhD, Antoine U. Viola, MD, Vanessa Kyriakopoulou, BSc, Malcolm von Schantz, PhD, and Dirk-Jan Dijk, PhD

Drug Metabolism & Disposition

Induction of CYP1A and CYP2-MEDIATED ARACHIDONIC ACID EPOXYSATION AND SUPPRESSION OF 20-HYDROXYEicosatetraenoic ACID BY IMIDAZOLE DERIVATIVES INCLUDING THE AROMATASE INHIBITOR VOROZOLES

Silvia Diani-Moore, Fotini Papachristou, Erin Labitze, and Arleen B. Rifkind

Department of Pharmacology, Weill Medical College of Cornell University, New York, New York

Proceedings of the National Academy of Sciences

Mast cell renin and a local renin–angiotensin system in the airway: Role in bronchoconstriction

And Vercammen*, Alicia C. Reif*, Rachel Estephan*, Nathan O’Connor* Martesia Szabo-Rodriguez, Roberto Levi*, and Randi B. Silver*

Departments of *Physiology and Biophysics and *Pharmacology, Weill Cornell Medical College, 100 York Avenue, New York, NY 10065
The ideal Biosciences graduate

- Competent & confident
- Critical thinker
- Communicator
- Team player
- Life-long learner

Employability skills
Examples of graduate destinations

<table>
<thead>
<tr>
<th>Research (MSc) PhD</th>
<th>Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Nursing</td>
</tr>
<tr>
<td>Pharma/Biotech/CRO</td>
<td>Law</td>
</tr>
<tr>
<td>Medicine (Fast Track)</td>
<td>Marketing</td>
</tr>
<tr>
<td>Dentistry</td>
<td>Accountancy</td>
</tr>
<tr>
<td>NHS Biomedical Scientist</td>
<td>Finance Management</td>
</tr>
<tr>
<td>Forensics</td>
<td>Business/Commerce</td>
</tr>
<tr>
<td>Scientific Civil Service</td>
<td>Armed Forces Personnel</td>
</tr>
<tr>
<td>Scientific publishing</td>
<td></td>
</tr>
</tbody>
</table>

Faculty of Health and Medical Sciences: 91%
Graduate: 94%

8th in the Guardian for Biosciences 2020

TEF GOLD
Gold in the UK’s first teaching excellence framework