

Chemistry with Biophysical Chemistry



Biophysical Chemistry combines the study of chemistry with the molecular principles of the functioning of life and their applications in modern technologies, from the design of a new generation of smart medicines to green manufacturing.

What Will I Study?*

Chemistry with Biophysical Chemistry is one of the degree subjects available through the Chemistry stream in the common entry Science course. Students study similar modules for all degree subjects in the Chemistry stream in first year and will study modules for a minimum of two degree subjects in second year. Students study their degree major in third and fourth year. This is a sample set of modules that a Chemistry with Biophysical Chemistry student could study each year in UCD. Students may also select option and elective modules throughout their degree.

YEAR 1

Engage with the principles

Modules available include:

- The Basis of Organic and Biological Chemistry
- The Basis of Physical Chemistry
- The Molecular World
- Cell Biology and Genetics
- Mathematics for the Biological and Chemical Sciences

YEAR 2

Choose your subjects

Modules include:

- Biophysical Chemistry
- Physical Chemistry
- Inorganic Chemistry
- Organic Chemistry

YEAR 3

Focus on your degree major

Modules include:

- Instrumental Analysis
- Carbonyl Chemistry and Synthesis
- Quantum Mechanics
- Mechanism and Stereochemistry
- Nano-Assemblies and Interfaces
- Organometallic and Solid State Chemistry

YEAR 4

Refine your knowledge

Modules include:

- Biophysical Chemistry Research Project
- Metals in Biology
- Electrochemistry
- Biophysical Chemistry
- Advanced Kinetics and Thermodynamics
- Nanochemistry

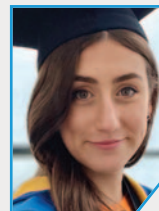
*Modules are subject to change each year and are not guaranteed by UCD.

Career & Further Study Opportunities

The interdisciplinary aspect of this degree and the acquired combination of theoretical and practical skills provide broad opportunities for employment in the area of advanced chemical and biomolecular technologies, including complex biomolecular formulations, bio-nanotechnology, bioprocessing and bioengineering. Biophysical Chemistry graduates will be able to find employment in biotechnological, chemical, pharmaceutical, biomedical, food, personal care and other industries, as well as academic research worldwide.

Graduates can also pursue a range of MSc or PhD opportunities in Ireland or abroad.

Graduate Testimonial



Bronagh McMullan,
Graduate

I entered Science studying equal parts Biology and Chemistry until I decided to specialise in Chemistry with Biophysical Chemistry. This subject addresses the need for chemists, in research and in industry, who have a proper understanding of biological principles as well as physics – to best tackle some of the biggest issues in biomedicine, biotechnology, and the environment. I have been on the French Society and Cumann Gaelach committees, acted in and directed plays with UCD Dramsoc, and been a Peer Mentor for Science. I now work as a Research & Development Chemist for Henkel in Dublin, and consider my 'global' and language education at UCD the most attractive attributes to global companies.

Internship Opportunities

Students have the opportunity to complete a Professional Placement module worth 5 credits. This module provides students with an opportunity to undertake a placement in industry (6-10 weeks) in the summer following Third Year.

Students in recent years have completed internships in Endo Pharmaceuticals, Boston Scientific, APC Ltd and MSD.

Students can also apply to complete research bursaries in UCD Research labs.

Placements are secured on a competitive basis and are subject to change each year.



EU Enquiries

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- 🌐 www.ucd.ie/myucd/biophysicalchemistry

Non-EU Enquiries

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