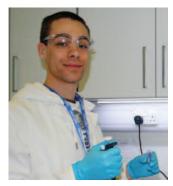
Medicinal Chemistry & Chemical Biology

CAO code: DN200 Option: Chemistry & Chemical Sciences (CCS)



UV determination of enzyme kinetics is a key step in the design of industrially relevant biocatalysts.

- Learn how to apply the tools of Chemistry to study biological systems
- Develop experience in techniques and instrumentation used in the pharmaceutical industry, e.g., the synthesis, identification and analysis of chemicals

I enjoyed practical lab work, drug development, Organic Chemistry and aspects of Pharmacology that I probably would not have realised if I had chosen a specialisation straight out of school. I hope to do a masters in Organic Chemistry or instrumental analysis when I graduate.

Tricia Madden, Student

Sample pathway for a degree in Medicinal Chemistry & Chemical Biology



ENGAGE WITH THE PRINCIPLES

CHEMISTRY

Topics include:

- ▶ The Basis of Organic and **Biological Chemistry**
- ▶ The Basis of Physical Chemistry
- ▶ The Basis of Inorganic Chemistry
- ▶ The Molecular World

MATHEMATICS

Topics include:

▶ Mathematics for the Biological & Chemical Sciences

BIOLOGY

Topics include:

- ▶ Cell Biology & Genetics
- ▶ Two Flective modules
- One Small-Group Project



CHOOSE YOUR SUBJECTS

MEDICINAL CHEMISTRY & CHEMICAL BIOLOGY

Topics include:

- ▶ Molecular Genetics and Biotechnology
- ▶ Principles of Biochemistry
- ▶ Medicinal Chemistry & Chemical Biology
- ▶ Pharmacology: Biomedical Science of Drugs
- ▶ Biomolecular Laboratory
- ▶ Organic Chemistry
- ▶ Physical Chemistry
- ▶ Inorganic Chemistry

CHEMISTRY

Topics include:

- ▶ Students who choose Medicinal Chemistry & Chemical Biology as their main subject for second year also cover the requirements for Chemistry.
- ▶ Two Elective modules



FOCUS ON YOUR CHOSEN SUBJECT

MEDICINAL CHEMISTRY & CHEMICAL BIOLOGY - Topics include:

- ▶ Chemical Biology of Natural Products
- ▶ Chemical Biology of Macromolecules
- ▶ Carbonyl Chemistry & Synthesis
- ▶ Medicinal Chemistry

- ▶ Structure Determination & Heterocyclic Chemistry
- ▶ Microbial Cell Factory/Chemists
- ▶ Mechanism & Stereochemistry
- ▶ Biochemist's Toolkit

▶ Two Elective modules



REFINE YOUR KNOWLEDGE

MEDICINAL CHEMISTRY & CHEMICAL BIOLOGY - Topics include:

- ▶ Research Project
- ▶ Metals in Biology
- ▶ Methods in Organic Synthesis
- ▶ Modern Methods of Catalysis
- ▶ Special topics in Medicinal Chemistry and Chemical Biology

BSc (Honours) Medicinal Chemistry & Chemical Biology

PhD

▶ Students can pursue a PhD in universities in Ireland or abroad in areas as diverse as Chemistry, Chemical Biology, Medicinal Chemistry, and Biochemistry

Industry

- ▶ Pharmaceuticals and **Biopharmaceuticals**
- ▶ Cosmetics Food Technology
- ▶ Fine Chemicals
- ▶ Chemical Development
- ▶ Patenting
- ▶ Science-based Sales, Marketing, Finance

Conversion Courses

- ▶ Professional Master of Education (PME)
- ▶ Graduate Veterinary Medicine
- ▶ Graduate Medicine
- ▶ Master of Management

*See pages 4 and 5 for information on the terminology used above. Potential combinations shown here are examples only and are not guaranteed by UCD. Topics are subject to change each year.



www.ucd.ie/myucd/ medicinalchemistryan dchemicalbiology



Professor Stefan Oscarson UCD School of Chemistry

stefan.oscarson@ucd.ie +353 1 716 2318 facebook.com/UCDScience twitter.com/ucdscience