Chemistry

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

Sample pathway for a degree in Chemistry



ENGAGE WITH THE PRINCIPLES



CHEMISTRY

Topics include:

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

▶ Organic Chemistry

▶ Physical Chemistry

▶ Inorganic Chemistry

MATHEMATICS

Topics include:

- ▶ Mathematics for the Biological & Chemical Sciences
- ▶ One Small-Group Project
- ▶ Two Flective modules



Preparing an experiment in Chemistry.



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 Skills

▶ Two Elective modules

▶ Two

Elective

modules

role chemistry plays in controlling the conversion of matter into useful substances such as new materials,

sensors and medicines

Understand the important

Develop skills in modern synthesis and analysis techniques used in the pharmaceutical and chemistry industries



FOCUS ON YOUR CHOSEN SUBJECT

CHEMISTRY – Topics include:

▶ Quantum Mechanics ▶ Carbonyl Chemistry & Synthesis

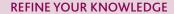
CHEMISTRY

Topics include:

▶ The Basis of Inorganic Chemistry

- ▶ Chemical Kinetics
- ▶ Mechanism & Stereochemistry
- ▶ Instrumental Analysis
 - ▶ Organometallic & Solid State Chemistry
 - ▶ Main Group Chemistry & Bonding
 - ▶ Symmetry & Computational Chemistry





CHEMISTRY – Topics include:

- ▶ Methods in Organic Synthesis
- ▶ Chemical Thermodynamics
- ▶ Research Project
- ▶ Electrochemistry
- ▶ Reactivity & Change
- ▶ Nanochemistry
- ▶ Advanced Inorganic Chemistry
- ▶ Methods in Organic Synthesis 2
- ▶ Modern Methods and Catalysis

Having an internationally renowned university on my CV certainly helped me to get a job in a Biotech company in London. UCD is well recognised in the UK and this has led to my role at the cutting edge of anti-cancer research developing and synthesising new drug molecules which have huge potential to be used in the

Dr Elizabeth Dunny, Graduate

clinic.

BSc (Honours) Chemistry

PhD

Students can pursue a PhD in Ireland or abroad in areas as diverse as:

- ▶ Pharmaceutical design
- ▶ Atmospheric kinetics
- ▶ Biological aspects of nanoscience
- ▶ Energy generation
- ▶ Pollution control
- ▶ Novel material synthesis
- ▶ Polymer chemistry
- ▶ Materials analysis bio-inorganic chemistry
- ▶ Computational studies

Industry

Most graduates work in the pharmaceutical or chemical industries. Positions range from manufacturing chemists to quality control/ analysis/assurance, research and development and raw materials/product analysis in manufacturing.

- ▶ 2nd level or 3rd level Teaching
- ▶ State Labs such as the Forensic laboratory
- ▶ ESB and Bord Gáis
- ▶ Environmental Protection Agency
- ▶ Medical device industry
- ▶ Patent law
- ▶ Healthcare industry

*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.



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