

Chemistry

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

Sample pathway for a degree in Chemistry *

YEAR
1

ENGAGE WITH THE PRINCIPLES

CHEMISTRY

Topics include:

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

MATHEMATICS

Topics include:

- ▶ Mathematics for the Biological & Chemical Sciences

- ▶ One Small-Group Project

- ▶ Two Elective modules

YEAR
2

CHOOSE YOUR SUBJECTS

CHEMISTRY

Topics include:

- ▶ The Basis of Inorganic Chemistry
- ▶ Organic Chemistry
- ▶ Physical Chemistry
- ▶ Inorganic Chemistry

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

YEAR
3

FOCUS ON YOUR CHOSEN SUBJECT

CHEMISTRY – Topics include:

- ▶ Quantum Mechanics
- ▶ Carbonyl Chemistry & Synthesis
- ▶ Chemical Kinetics
- ▶ Mechanism & Stereochemistry

- ▶ Instrumental Analysis
- ▶ Organometallic & Solid State Chemistry
- ▶ Main Group Chemistry & Bonding
- ▶ Symmetry & Computational Chemistry

- ▶ Two Elective modules

YEAR
4

REFINE YOUR KNOWLEDGE

CHEMISTRY – Topics include:

- ▶ Chemistry Research Project
- ▶ Methods in Organic Synthesis
- ▶ Chemical Thermodynamics

- ▶ Electrochemistry
- ▶ Reactivity & Change
- ▶ Nanochemistry

- ▶ Advanced Inorganic Chemistry
- ▶ Methods in Organic Synthesis 2
- ▶ Modern Methods and Catalysis

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.



Preparing an experiment in Chemistry.

- Understand the important role chemistry plays in controlling the conversion of matter into useful substances such as new materials, sensors and medicines
- Develop skills in modern synthesis and analysis techniques used in the pharmaceutical and chemistry industries

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DN200 allowed me to sample subjects from across Biology, Chemistry, Physics and Geology and I decided Chemistry was the subject for me. I was drawn to the laboratory aspect of the degree, and the small class sizes offered. The lecturers are involved and aim to provide us with the skills we will need following graduation. Elective modules afforded me the opportunity to try areas outside of my degree, the most enjoyable of which has been the UCD Philharmonic Choir. Following graduation, I hope to expand my skill set further by applying the knowledge of Chemistry I've acquired throughout my degree to an analytical role in an industrial laboratory.

Eimear Madden, Student

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