MSc Synthetic Chemistry for the Pharmaceutical & Fine Chemicals Industry
(1 Year Full Time)

This course is designed for Chemistry graduates who are interested in deepening their knowledge of synthetic chemistry with a view to pursuing a career in either the fine chemical or pharmaceutical industries. There is a strong demand for these synthetic chemistry skills. Ireland is home to operations by some of the world’s leading pharmaceutical and biotechnology companies making some of the world’s blockbuster medicines. You can focus on areas such as the synthesis of organic compounds and drug-like substances, techniques for structure determination, and methods for drug discovery. In addition, you will complete a research project from topics in relevant areas, including catalysis, carbohydrate chemistry and asymmetric synthesis.

Course Content and Structure

| 90 credits taught masters | 60 credits taught modules | 30 credits research project |

The structure of the programme is as follows:

**Autumn Trimester**
- Organic Synthesis
- Metals in Biology
- Topics in Medicinal Chemistry
- Spectroscopic Techniques
- Masterclass in Carbohydrate Chemistry

**Spring Trimester**
- Organic Synthesis 2
- Modern Methods & Catalysis
- Chemistry Lab to commercialisation
- Catalytic Asymmetric Synthesis
- Advanced NMR & MS
- Advanced Organic Synthesis & Drug Discovery

**Summer Trimester**
- Research Project

Modules and topics shown are subject to change and are not guaranteed by UCD.

Entry Requirements

- This programme is intended for applicants with a Chemistry degree, or a degree with a significant component of chemistry. An upper second class honours undergraduate degree or international equivalent is required.
- Applicants whose first language is not English must also demonstrate English language proficiency of IELTS 6.5 (no band less than 6.0 in each element), or equivalent, such as TOEFL (iBT) score of 90 or PTE score of 63.

Career Opportunities

The MSc Synthetic Chemistry course provides a basis for graduates to enter the chemical, pharmaceutical, bio-pharmaceutical and materials industries. Analytical services, environmental protection, and primary and secondary school teaching present other possible opportunities. This course is also a route for some students into a PhD programme. For example, the UCD School of Chemistry has vibrant research in areas such as catalysis, the synthesis of biologically active compounds and the development of new materials for magnetic and electronic applications, and it has strong links with pharmaceutical and fine chemical companies in Ireland and around the world.

Faculty Profile

**Associate Professor Paul Evans, UCD School of Chemistry**

I am an organic chemist, contributing to teaching and also leading research in the UCD School of Chemistry. My main research interest is in the area of developing new synthetic methods to prepare biologically active small molecules. Targets include fatty acid metabolites and saturated N-heterocycles, and we have prepared both natural products and structural analogues.

**Associate Professor Mike Casey**

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www.ucd.ie/courses/msc-synthetic-chemistry

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