



OLLSCOIL NA
GAILLIMHÉ
UNIVERSITY
OF GALWAY

Coláiste na hEolaíochta
& na hInnealtóireachta
College of Science
& Engineering



GY301 Science (Bachelor) Medicinal Chemistry

University
ofGalway.ie

GY301

Bachelor of Science Medicinal Chemistry Pathway

Programme Structure

Medicinal Chemistry is one specialism on offer within the GY301 Science programme. After completion of Year 1, students enter the pathway of study from Year 2, subject to limited places, and can continue that path of study to specialise as a graduate in Medicinal Chemistry in Year 4. Furthermore, this pathway has recently been accredited by the Royal Society of Chemistry, thus ensuring that graduates will receive a quality education in chemistry that gives them the necessary skills to contribute towards solving some of the world's most pressing and important challenges.

In your final year, you will spend 3 months working in one of the research laboratories alongside PhD students and postdoctoral associates. You will have your own unique medicinal chemistry project and will get the opportunity to present your findings to the School and perhaps get your name on a paper.

Your course year by year

Year Two

- Introduction to Medicinal Chemistry
- Organic Chemistry
- Inorganic Chemistry
- Physical Chemistry
- Analytical Chemistry
- Molecular and Cellular Biology
- Pharmacology
- Electives

Year Three

- Experimental Chemistry
- Organic Chemistry
- Analytical Chemistry and Molecular Structure
- Introduction to Toxicology
- Drug Design and Drug Discovery
- Computers in Chemical Research
- Inorganic Chemistry
- Physical Chemistry
- Validation in the Pharmaceutical Industry

Year Four

- Medicinal Chemistry Research Project
- Practical Skills Development
- Spectroscopic and Physical Methods
- Bioorganic Chemistry
- Bioinorganic Chemistry
- Physical Chemistry I and II
- Organic Chemistry
- Advanced Inorganic Chemistry
- Current Topics in Medicinal Chemistry

Career Opportunities

Medicinal Chemistry graduates are highly employable with opportunities in chemical and pharmaceutical industries, forensics, agri-food, environmental services, education and teaching. Many graduates pursue research careers and continue studies at the MSc and PhD levels.

Further Study

universityofgalway.ie/courses/taught-postgraduate-courses

Choosing this pathway enabled me to develop an excellent broad scientific background as well as specialised knowledge in the fields of biochemistry, pharmacology, and chemistry. Completing my final year research project in the area of medicinal organic chemistry was a rewarding experience that gave me the practical laboratory experience and analytical skills required for my job today. Currently, I am working at a food technology start-up in the Netherlands on the development of a polysaccharide-based biomaterial for the production of cultivated meat.

Laoise Murray
Graduate

Why choose this pathway?

- If you have an interest or a flair for chemistry and how it can be used to design and construct molecules that can be used to cure, treat or prevent disease, then this is the pathway for you.
- Academic staff within the School of Biological and Chemical Sciences, have active research laboratories focusing on many areas of medicinal chemistry. In our School, we develop new methods to make chemical bonds, thus allowing drug molecules to be constructed easily from simple building blocks. We design and synthesise new molecules that can be used to treat cancer and bacterial and viral infections. We explore the deep seas around Ireland to find exotic molecules that might have medicinal properties. We design novel drug delivery systems and formulations that will lead to safer and more effective medicines.
- Our School is unique because it brings together chemists, biochemists, microbiologists and cell biologists, who are now working together to contribute to scientific knowledge and develop solutions for human health. We are enthusiastic about passing on our knowledge and skills to you, who will be developing the medicines of the future.

Find out more

GY301 Science Programme Director

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w. universityofgalway.ie/gy301



GY301 Science (Bachelor) Medicinal Chemistry

Why choose this course?

The GY301 Bachelor of Science degree programme allows you to take a variety of subjects in Science before you decide which scientific area to specialise in for your four-year honours degree.

You have the flexibility to discover your unique interests and build a tailored skillset, specialising step by step as you progress from year to year.

Medicinal Chemistry is one such pathway of study offered within the GY301 Science programme. Some pathways have limited spaces.

Course Overview

Medicinal chemists play vital roles in drug discovery and development. They are vital in addressing health problems such as resistance to cancer, all types of infections, and diseases of the brain and nervous system. Medicinal chemists work to design, discover and develop the next generation of drugs.

Career Opportunities

Medicinal Chemistry graduates are highly employable with opportunities in chemical and pharmaceutical industries, forensics, agri-food, environmental services, education and teaching.

Many graduates pursue research careers and continue studies at the MSc and PhD levels.

Duration

4 years



Find out more

The College of Science
and Engineering



Email

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