



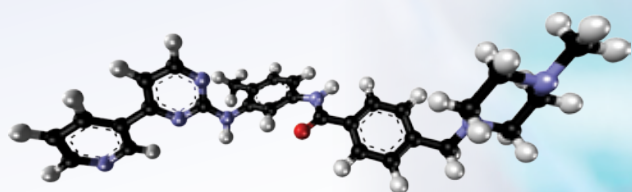
Medicinal Chemistry

Chemistry for Drug Discovery!

Do you want to learn how to discover and develop life saving medicines? Then study Medicinal Chemistry.

Medicinal chemists play crucial roles in drug discovery and development.

Medicinal Chemistry is vital to addressing all modern health problems such as the problem of resistance to antibiotics, cancer, all types of infection and diseases of the brain and nervous system.



Gleevec is a life saving drug for chronic myeloid leukaemia (a blood cancer) that was made possible by Medicinal Chemistry.

www.nuigalway.ie/chemistry

Bachelor of Science Undenominated

(Choose Chemistry, Biology, Physics and Mathematics in year 1 and Medicinal Chemistry in year 2)

CAO Code: GY301

Entry points (2018): 401

Duration: 4 years

Average intake: 300 into GY301, with 20 places available in the Medicinal Chemistry programme in year 2.

Entry requirements: Minimum Grade H5 in two subjects and passes in four other subjects at O6/H7 level in the Leaving Certificate, including Irish, English, Mathematics, a laboratory science subject (i.e. Chemistry, Physics, Biology, Physics with Chemistry (joint) or Agricultural Science) and any two other subjects recognised for entry purposes.



Medicinal Chemistry

The School of Chemistry at NUI Galway have expertise in various aspects of Medicinal Chemistry. This includes searching for drugs from natural sources including the marine, using synthesis to make new molecules for drug discovery projects, designing drugs using computers, analysing the properties of molecules with relevance to a range of disease areas such as cancer and influenza.

Drug discovery and development involves medicinal chemists working with other life scientists and clinicians. The content of this programme reflects the interdisciplinary approach to Drug Discovery with students taking courses in Life Sciences as well as Chemistry and Medicinal Chemistry.

Course Outline

Year 1

The degree begins with a broad foundation training in Chemistry, Physics, Mathematics and Biology.

Year 2

Students choose Medicinal Chemistry as one of their pathway options, which includes modules in Pharmacology and Biochemistry, along with an Introduction to Medicinal Chemistry module. Students still have the option to choose up to three pathways in year 2.

Year 3

Students take relevant courses in chemistry and biology, including a Drug Discovery and Design module.

Year 4

Students take courses essential to becoming a medicinal chemist and carry out a Medicinal Chemistry research project.

Medicinal Chemistry

Careers in Medicinal Chemistry

Medicinal Chemistry graduates, like all Chemistry graduates, are highly employable with opportunities in the Chemical and Pharmaceutical industries, forensics, agri-food, environmental services, education, teaching.

Students acquire a range of professional and transferable skills. Many graduates pursue research careers and continue studies at MSc and PhD level. Medicinal Chemistry is a stepping stone to other degree options such as Pharmacy and entry to Medical School.

Did you know?

- The 2015 Nobel Prize in Medicine was awarded for the discovery of the medicinal agents artimesinin and avermectin, which are used to treat some of the World's most devastating parasitic diseases including river blindness and malaria. www.nobelprize.org
- In 1900 most babies born did not live past 50 years or age, The development of treatments for infectious and parasitic diseases has greatly contributed to increases in life expectancy and improvements in quality of life.
- Medicinal Chemists are currently working on development of new treatments for the diseases of the 21st century, including trying to find new therapies for cancer and new antibiotics which overcome during resistance.



© Nobel Media AB 2015/ Alexander Mahmoud

Irish born scientist William Campbell shared the 2015 Nobel Prize for Medicine for the discovery of medicine for river blindness.