



NUI Galway
OÉ Gaillimh

Biomedical Science Flexible Postgraduate Programmes



Biosciences

www.nuigalway.ie/biomedical-science

Biomedical Science

NUI Galway has an established international reputation in the field of Biomedical Science. It is the biggest university in Ireland for biomedical science research and Galway is one of five global hubs in a market worth €95 billion – the five are San Francisco, California; Minneapolis, Minnesota; Boston, Massachusetts; Galway, Ireland and Munich, Germany.

As a Biomedical Science student you will have access to some of Ireland's leading researchers and experts, who bring their expertise from the laboratory into the lecture theatre to share real knowledge of research in action. These researchers make a significant contribution, not just to the advancement of knowledge in biomedicine, but in developing therapeutic treatments for patients.

NUI Galway is ranked third of the Irish universities in the Times Higher Education World University Rankings. This places NUI Galway in the top 2% of universities in the world.

NUI Galway is consistently one of the top Irish universities for employability: over 93% of our graduates are employed or in further study within 6 months of graduating in 2013. In addition, we are in the final stages of a €400 million capital investment programme, the single largest capital development plan ever undertaken by the University. This investment has transformed the campus, giving access to the very best facilities for teaching and learning.

Flexible Biomedical Science Postgraduate Programmes

The MSc in Biomedical Science (continuous) is a flexible programme (option 1) in which taught modules can be completed over a period of up to 6 years. Alternatively, students can commit to the 2-year part-time distance learning MSc (option 2). This programme has been developed to meet the needs of employees working in the biomedical device, pharmaceutical and diagnostic sectors who wish to update their skills with the latest knowledge, technologies, research application and expert insight to improve their career options and/or gain knowledge in a new area of biomedical science.

You will work in a research-intensive environment with strong academic and industry links in Ireland and abroad. You will learn skills that will position you strongly for a career in biomedical device, pharmaceutical and diagnostic industry, academic and/or industrial research.

Application process

Applicants can choose to study a two year, part-time, distance learning, or a continuous and flexible programmes.

Option 1 MSc in Biomedical Science (Continuous/flexible)

Course level: Level 9

Duration: Up to 6 years

Fees: €1,000 per taught module
€2,000 for research project

Applying: www.nuigalway.ie/apply

Closing date: 2 - 8 weeks prior to module start date

Advantages of studying a continuous/flexible programme

This unique and flexible programme in Biomedical Science is the only one of its kind in Ireland. You can join the programme in any academic year, registering and paying €1,000 for individual modules in a pay-per-module fashion.

If you pursue this option, you will slot in with students enrolled

on the 2-year distance learning programme (option 2).

This is a highly flexible programme, offering you the opportunity to continue with your career and embark on an MSc in Biomedical Science. It provides you with an opportunity to apply the learning in your organisation almost simultaneously.

It also offers you access to a network of leading experts and researchers in the area of biomedical science, state-of-the-art facilities, alumni and industry leaders both locally and internationally.

The programme is taught through a combination of traditional lectures, e-tutoring and the virtual learning environment Blackboard. Due to its flexibility and uniqueness, it is attractive to national and international students and is very accessible to individuals working full-time in this area.

Option 2 MSc/PGCert in Biomedical Science (Part-time, distance learning)

Course level: Level 9

Duration: 2 years/1 year part-time, distance learning

Average intake: 20

Fees: EU students: €6,815 per year (total €13,630)

Non EU students: €13,500 per year (total €27,000)

How to apply: Applications to this programme are made online via www.pac.ie/nuigalway

Note: In addition to submitting a completed application form, applicants are required to provide a personal statement, explaining why they wish to undertake this programme.

Closing date: Please refer to the review/closing date at www.nuigalway.ie/postgrad/closingdates

PAC Code: GYS19/GYS20

The MSc in Biomedical Science, a two-year, part-time course introduces students to an interdisciplinary approach to research, which utilises technologies and skills from a wide spectrum of scientific, engineering and clinical disciplines to address fundamental questions originating in biology and medicine. Aimed at individuals employed in the biomedical device, pharmaceutical and diagnostic sectors, this course has been developed to meet the needs of working graduates who wish to update their knowledge and/or change careers.

The programme provides you with the means of achieving the mathematical, computational, and instrumentation skills required in this field. The programme covers modules in

Cellular Biology, Innovation and Technology Transfer, Gross Anatomy, Histology, Biomaterials, and a practical module.

Additional modules offered include Molecular and Regenerative Medicine, Pharmacology and Toxicology, Monitoring for Health Hazards at Work, Lasers and Applications, Stereology, Tissue Engineering, and Biomechanics. Students attend lectures once every 5 weeks, with distance learning supported by Echo360 Lecture Capture and Blackboard technologies.

Product Development, Validation and Regulation, as well as Project Management, Experimental Design and Data Analysis, are also covered.

Students complete a research project worth a third of the final grade. The research may be done in-house at the student's place of work or it may be done in collaboration with NUI Galway based researchers. Students who are unable to complete a research project have the option to leave with a PDip Biomedical Science (Level 9). The PgCert (Level 8) caters for those not in a position to commit more than one year to postgraduate studies. However, following successful completion of the PgCert, students may request a transfer into the second year of the MSc programme, assuming numbers permit it. Alternatively, students may choose to leave with a PgCert, but may request entry into the MSc programme two or four years later, joining a subsequent student cohort.

**WINNER of the
Postgrad Ireland
Postgraduate
Course of the Year
(Science) Award
2013**

Programme schedule for both programmes

Module Title	Semester/Year*	Start date	Apply by
Molecular & Cellular Biology	S1/Y1	August	Mid-August
Innovation & Technology Transfer	S1/Y1	October	August
Anatomy (Gross)	S1/Y1	November	September
Anatomy (Histology)	S2/Y1	February	December
Materials Science & Biomaterials	S2/Y1	March	January
Practical	S2/Y1	April	February
Molecular & Regenerative Medicine	S1/Y2	August	July
Pharmacology & Toxicology	S1/Y2	October	August
Product Development, Validation & Regulation (optional)	S1/Y2	November	September
Project Management, Experimental Design & Data Analysis (optional)	S1/Y2	November	September
Biomechanics	S2/Y2	February	December
Tissue Engineering (optional)	S2/Y2	March	February
Monitoring for Health Hazards at Work (optional)	S2/Y2	March	February
Stereology (optional)	S2/Y2	April	March
Lasers and Applications (optional)	S2/Y2	April	March
Research Project	Not Applicable	Not Applicable	Contact course Director

*The next two-year cycle (Option 2) begins in August 2016, but students can join the programme at any time via the continuous route (Option 1).

Module content is delivered over two taught semesters, each academic year. A total of four semesters, over two years, is required to access all modules.

Traditional lectures are held on a Friday afternoon and/or a Saturday morning, every 5 weeks. Module directors and trained e-tutors support student engagement, online learning and self-directed study, via 'Blackboard' and video messaging. Our Echo360 lecture capture system allows students to access their lectures online and enhances the student learning experience, enabling lectures to be viewed on demand.

Entry Requirements for both programmes

Candidates must hold at least a Second Class Honours, Level 8 (or equivalent international qualification) primary degree in Science, Engineering, Technology, Maths, or a related subject area which is judged as acceptable by the College of Science. Candidates with a suitable 4-year primary degree without honours but who have 3 years relevant and appropriate practical experience may also be considered. For applicants whose native language is not English, an IELTS score of at least 6.0 is required, with not less than 5.5 in any one component.

Careers and employment

Current and past graduates have found work in medical device and pharmaceutical companies including Boston Scientific, Abbott, Medtronic, Elan, Stryker, Allergan, Advanced Surgical Concepts, Pfizer, and Creganna. Whether industry or healthcare-based, precise job descriptions vary from sales, to Research and Development (R&D) engineers. Completion of this new distance-learning and/or continuous biomedical science postgraduate programme will broaden career prospects of new graduates and those who have already joined the work force.

With regard to the flexible MSc in Biomedical Science (continuous), programme individuals who work in the medical device, technological, pharmaceutical or healthcare can use this programme to upskill or gain new knowledge about a new field. For example, engineers can learn about cell and molecular biology, while those with a background in biology can learn about tissue engineering, biomaterials and biomechanics. This knowledge may facilitate a move, for example, from a production environment, to R&D. On the other hand, knowledge of innovation and technology transfer, project management, data analysis, or product development, validation and regulation may enable a transfer from production or research, to higher levels of management.



Mr. John Kilmartin
Senior Director of Regulatory Affairs in Medtronic (based in Galway, Ireland).

“From an industry perspective, I believe that the MSc in Biomedical Sciences (continuous, part-time ,

distance learning) provides the flexibility and level of detail necessary in today’s Med Tech environment. The course has strong scientific/technical content and coupling this with applied experiences from a variety of academic and industry lecturers works really well. Many of the students already have direct experience in the medical technology or pharmaceutical sectors and are engaged in furthering their knowledge in a very interactive way. I can see the benefits for employees of both SMEs and multinational companies who wish to expand their expertise into areas such as product development, regulatory affairs and other aspects of a regulated industry. For students who have not yet experienced the Med Tech sector in Ireland, this course provides an excellent foundation in many of the clinical, regulatory, scientific and engineering disciplines”.



Dr. Aiden Flanagan
Principal R&D Engineer in the Corporate Research organisation in Boston Scientific Corporation Galway

“The MSc in Biomedical Science is a great opportunity to give your career

the leverage it needs by gaining new skills and knowledge in key areas, which is fundamental to the next generation of medical devices and that you can apply straight away to your job. The new continuous learning format allows you to take courses that you want and when you want that will fit your own schedule and time constraints”.



Graduate profile

Tom Tuohy,
MSc Biomedical Science (via distance learning) R&D Sustaining Manager, Covidien, Galway

“I graduated from the University of Limerick with a BEng in Electronics in 1991. I then worked for 20 years in telecommunications, the automotive industry and most recently the medical device industry. I am currently employed as a Research and Development Sustaining Manager in Covidien, Galway.

I chose the flexible MSc in Biomedical Science by distance learning as it ticked all the boxes for what I needed. I was impressed with the reputation of the researchers at the National Centre for Biomedical Engineering and Science. The course content had great appeal with the strong mix of science, engineering and clinical subjects and the background of the lecturers, with both academic and industry experience.

Having a full-time job and four young kids, along with taking the MSc was a challenge. However, the course structure helped me greatly in spreading out the workload evenly. The combination of classroom and online tutoring was exactly the balance I needed for a flexible approach to work and study. The knowledge I picked up working was a big help in comprehending the subjects. The content and presentation of the modules was excellent. Meeting one weekend per month was great for keeping the motivation going and with the small class size we all got to know each other quickly. The course has rightly been awarded Postgraduate Course of the Year in Science 2013 which is a reflection of the commitment of the course director and support team to providing a great learning experience and environment to the students”.

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www.nuigalway.ie/courses/taught-postgraduate-courses/biomedical-science.html