



M.Sc. IN BIOINFORMATICS

A one-year full-time taught Masters programme featuring a common core curriculum with two distinct streams, Computing and Biotechnical

PROGRAMME OVERVIEW

Dublin City University School of Computer Applications and the School of Biotechnology have combined to develop a full-time M.Sc. degree in Bioinformatics, with a choice of two streams, computing and biotechnical. The two streams within the same programme are designed to offer two distinct tracks with a shared bioinformatics emphasis to appeal to both computing and biotechnical specialists. The programme is designed to be completed in one calendar year of full-time study and consists of two taught semesters followed by a practical bioinformatics project, referred to as a "practicum".

Career Prospects

Currently, there is a world-wide shortage of people with the computing and bioscience skills necessary to support the growing pharmaceutical and biotechnology fields. With increased research support for genomics and the explosion of bioinformatics, there is a growing demand for researchers and managers, among others, with a thorough understanding of the techniques used in genome analysis.

Funding Support

Students from E.U countries will receive funding under the H.E.A. IT Investment Fund (ITIF) programme. This means that the major part of University fees will be paid, with only a small payment required from the student.



With its extensive shared curriculum and interactive teaching modules, the uniqueness of this Masters degree lies firmly in the strong collaborative ethos it fosters across the computing and biotechnical tracks

COURSE OUTLINE

The programme is delivered on a full-time basis over 12 months commencing at the end of September with a team building exercise. Over the first two semesters, students on the Biotechnical stream take modules in advanced biological topics, as well as some fundamental modules in computing. Students on the computing stream take modules in Biocomputing and Biosystems. All students on the programme take a set of common modules in topics such as Sequencing, Genomics, and Computational Methods for Bioinformatics. For further details, see overleaf.

Practicum

In the final semester, from May to August, students from the two streams collaborate to work on a "practicum" or major project of a practical nature. Here, the teams of students can use biologically inspired techniques to solve computing problems and computationally inspired techniques to solve biotechnical problems. The projects, which may be provided by corporate clients or involve some of the students' own ideas, typically involve market research, formulation of business and project plans, and development of a software application or a bioinformatic product.

ENTRY REQUIREMENTS

For the Computing stream, candidates must have a H1 or H2.1 in Computer Science, Computing, Computer Applications or a related discipline. Candidates with significant experience in the computing sector, on top of a primary degree in some other discipline, may also apply for entry.

Applicants to the Biotechnical stream require a H1 or H2.1 degree in Biotechnology, Biology, or a related discipline. Candidates with significant biological experience from their primary degree, or subsequent to their primary degree, may also apply for entry.

PROGRAMME STRUCTURE

The outline structure is given below (subject to change)

	Computing Stream	Common Modules	Biotechnical Stream
<i>Orientation Programme</i>			
Semester 1	<ul style="list-style-type: none"> • Molecular Biology • Topics in Bioinformatics • Biosystems I 	<ul style="list-style-type: none"> • Computational Biology • Modelling Biological Systems • Research Skills 	<ul style="list-style-type: none"> • Artificial Intelligence • Databases • Object Oriented Programming
Semester 2	<ul style="list-style-type: none"> • Advanced Molecular Biology • Biosystems II 	<ul style="list-style-type: none"> • Sequencing • Genomics • Biocomputing • Immunology 	<ul style="list-style-type: none"> • Advanced programming techniques in Java • Intelligent Pattern Matching
Summer	<i>PRACTICUM</i>		
	M.Sc. in Bioinformatics (Computing)		M.Sc. in Bioinformatics (Biotechnical)

FURTHER INFORMATION

You can get more information on-line at:

www.dcu.ie/prospects/prospectus/index.html

Application forms are available on-line at:

www.dcu.ie/ro/forms/

Alternatively, application forms and copies of our Faculty Booklets can be obtained from:

The Registry
Dublin City University
Dublin 9

Telephone: (01) 700 5338
Fax: (01) 700 5504
E-Mail: registry@dcu.ie

The **closing date** for receipt of applications is **July 2003**. Places are strictly limited. Applications after this date may be entertained but only subject to availability of places.



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