SCIENCES & HEALTH

"CONTRIBUTING TO TECHNOLOGICAL SOCIAL AND ECONOMIC WELL-BEING OF SOCIETY"

HONOURS DEGREES - LEVEL 8

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EOLAÍOCHT BHITHLEIGHIS
BIOMEDICAL SCIENCE

BSc Leibhéal 8 / Level 8

All students will be vetted by An Garda Síochána.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of: Physics, Chemistry, Physics and Chemistry or Biology
6	2H5's	04/H7	06/H7	

What is... Biomedical Science?

Biomedical Science is the science related to medical conditions, their causes, diagnosis and treatment. Graduates from the DIT Degree in Biomedical Science may work as medical scientists or research scientists all over the world.

"The Degree in Biomedical Science offered here in DIT is accredited by both the Academy of Clinical Science and Laboratory Medicine [Ireland] and the Institute of Biomedical Science [UK]."

This dual accreditation ensures that graduates of the DIT degree are eligible to work as medical/biomedical scientists in Clinical Diagnostic Pathology Laboratories in Ireland, the UK, Canada, New Zealand and Australia.

The degree provides multi-disciplinary training and clinical laboratory placement in all Biomedical Science disciplines, so that a graduate may work in any of the following areas in Pathology: Clinical Chemistry, Clinical Immunology, Clinical Cytology, Cellular Pathology, Haematology, Medical Microbiology, Molecular Diagnostics, and Transfusion Science.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

Learning Outcomes:

What will I Study?

The degree is of four years duration, with the first year covering the core sciences and providing an introduction to Biomedical Science. In the second year, Immunology, Cell and Molecular Biology and Biochemistry are covered, together with a module in each of the five major diagnostic Pathology Biomedical disciplines [Cellular Pathology/Clinical Cytology, Clinical Chemistry, Haematology, Medical Microbiology, and Transfusion Science].

In third year the student undertakes a 30 week Clinical Laboratory Placement in a Hospital Pathology Laboratory with a six week rotation through each of the Biomedical Science disciplines [Cellular Pathology/Clinical Cytology, Clinical Chemistry, Haematology, Medical Microbiology, and Transfusion Science].

In the final year the student will study core modules in Molecular Diagnostics, Professional Skills and Quality Systems, and Research Methods and Data Interpretation.

Two further modular options are selected from the following options:

Clinical Chemistry
Cellular Pathology
Haematology
Transfusion Science
Medical Microbiology
Clinical Immunology

Following completion of these modules, the student will undertake a 12-week Research Project which may be based in DIT, in a Hospital Pathology Laboratory or in an International Research Centre [under the Erasmus/Socrates EU-funded Programme]. The School of Biological Sciences currently has six EU partners for Research Project Placement.

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 4562 (School Office)
01 402 4995

Frank.Clarke@dit.ie
biolsciences@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT204	4 YEARS	40 PLACES	KEVIN ST	497

Module Listing

Year One

Introduction to Biomedical Science ● Biochemistry & Molecular Biology ● Introduction to Histology, Anatomy & Physiology ● Organ System Physiology ● Introduction to Chemistry ● Physics for Health Sciences ● Mathematics for Health Sciences ● Introduction to Infection & Immunity ● Professional & Scientific skills ● Biostatistics for Health Sciences

Year Two

Biological Basis of Disease ● Cell & Molecular Biology ● Control & Integrated Physiology ● Biochemistry of Metabolism ● Bioinformatics for Biomedical Science ● Molecular Immunology ● Professional & Research Skills ● Cellular Pathology/ Clinical Cytology ● Clinical Chemistry ● Haematology ● Medical Microbiology ● Transfusion Science

Year Three

Professional Placement in a Hospital Laboratory (30 weeks)● Professional Practice

Year Four

Molecular Diagnostics ● Professional Skills and Quality Systems ● Research Methods & Data Interpretation

Select two of the following modular options:

Clinical Chemistry ● Cellular Pathology ● Haematology & Transfusion Science & Haematology ● Haematology & Transfusion Science & Transfusion Science ● Medical Microbiology● Molecular Immunology & Clinical Immunology

Research Project (12 weeks)

What are my... Career Opportunities?

There are many opportunities for Biomedical Science graduates in both diagnostic Pathology laboratories in the Health Service and in research laboratories. Graduates of this degree have completed both the Clinical Laboratory Placement and honours degree in Biomedical Science, which are required for eligibility to practice as a medical scientist in Clinical Pathology Laboratories in Ireland [Department of Health and Children Regulations]. This degree is also recognised for employment in Private Pathology and Research laboratories, and for Biomedical Science positions worldwide.

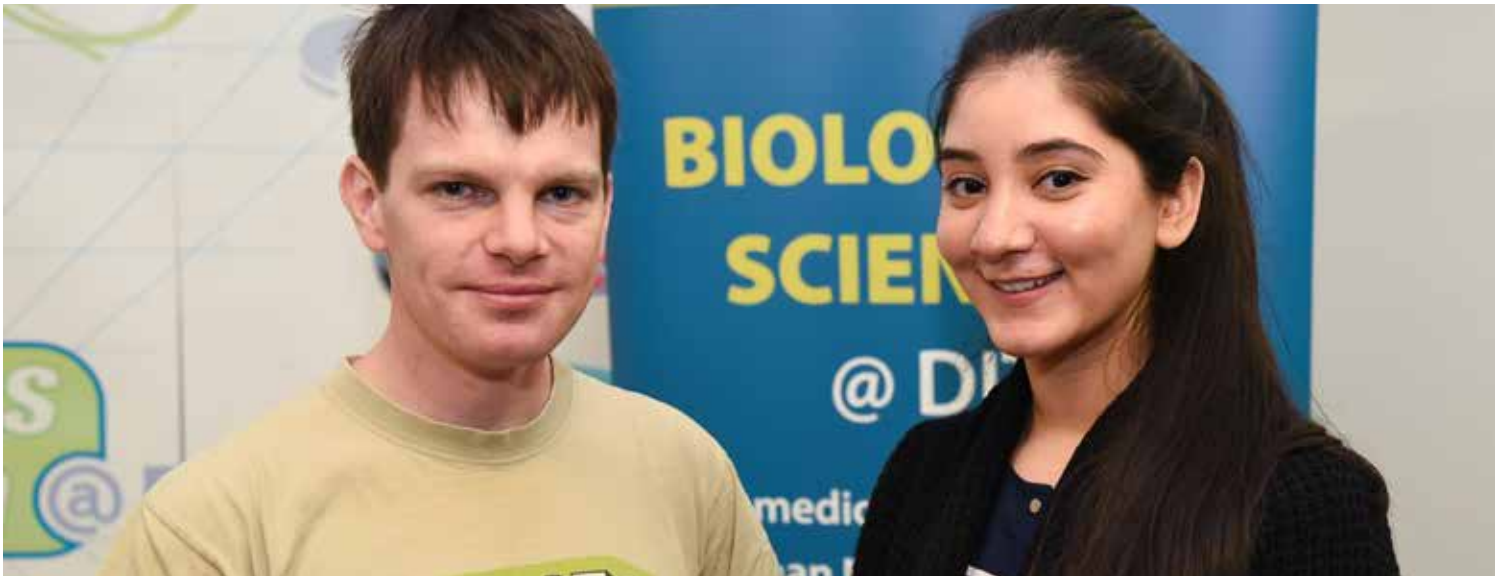
*For more career development options please see inside front cover

What other options do I have after completion?

Graduates may be accepted onto a wide range of Masters (MSc) programmes including MSc in Clinical Laboratory Science, MSc in Molecular Medicine [TCD], MSc in Health Services Management, Post-graduate Medicine, MA in Journalism, MBA programmes, or Higher Diploma in Education.

Are there study abroad options?

Yes, the 12-week Research Project may be carried out in one of six partner Institutions in the EU under the Socrates/Erasmus programme.



You might also be INTERESTED IN:

- Biosciences - DT259 **Pg 246**
- Biomedical & Molecular Diagnostics - DT206 **Pg 198**

DIAGNÓISIC BHITHLEIGHIS & MHÓILÍNEACH
BIOMEDICAL & MOLECULAR DIAGNOSTICS

BSc Leibhéal 8 / Level 8

INFECTIOUS DISEASES - STUDENTS ENROLLING ON THIS PROGRAMME MUST UNDERGO A HEPATITIS B VACCINATION.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of: Physics, Chemistry, Physics and Chemistry or Biology
6	2H5's	04/H7	06/H7	

What is...Biomedical & Molecular Diagnostics?

Biomedical Science is the science related to medical conditions - their causes, diagnosis (identification of disease) and treatment. Molecular diagnostics is the use and development of novel technologies to enable faster and more personalised diagnosis, often using DNA based approaches. This programme is designed to bring students from the fundamental sciences to advanced diagnostics, product (test) design and development. The aim is to foster the development of technically competent, flexible graduates with practical problem solving abilities, bioentrepreneurship, generic and transferrable skills via a combination of coursework, work placement and research placement. A unique feature of the programme is the integration of diagnostic and analytical sciences with bioproduct design and development. The programme also includes modules in transferrable skills such as communications, basic programming, bioinformatics, bioentrepreneurship and bioindustry skills. In years three and four, semester-long work placements and research projects provide an invaluable opportunity to gain real life skills and experience, and to apply academic knowledge in a real-world setting.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

Learning Outcomes:

What will I Study?

The degree is of four years duration, with the first year covering the core sciences and providing an introduction to Biomedical Science and Molecular Diagnostics. In the second year Biochemistry, Cell and Molecular Biology are developed further, together with modules in Biomedical Science disciplines [Cellular Pathology/Clinical Cytology, Clinical Chemistry, Haematology, and Medical Microbiology]. In addition, students will undertake Bioinformatics and Biostatistics modules.

In third year the student undertakes a 14-week professional work placement in an industry or research organisation. Students will also study Biosensor and Bioproduct Development, an integrated topic supported by modules in genetic engineering, pharmacology and toxicology and data analytics.

In the final year students will study core modules in Molecular Diagnostic as applied to Microbiology, Oncology (Cancer) and Genetics. Students will take modules in Point of Care Diagnostics and will prepare for their future careers with Bioentrepreneurship and Bioindustry skills.

Finally, in semester two of the final year, students will undertake a 12-week Research Project which may be based in DIT, in Industry Laboratories/Organisation or in National and International Research Centres [under the Erasmus/Socrates EU-funded Programme]. The School of Biological Sciences currently has a number of EU partners for Research Project Placement.

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 4562 (School Office)
01 402 4995

biolsciences@dit.ie

COURSE CODE: **DT206**

COURSE LENGTH: 4 YEARS

APPROX: 25 PLACES

LOCATION: KEVIN ST

POINTS 2017 **444**

Module Listing

Year One

Introduction to Biomedical Science & Molecular Diagnostics ● Cell Biology ● Physiology ● Biochemistry & Molecular Biology ● Introductory Chemistry ● Physics for Health Sciences ● Mathematics ● Introduction to Infection & Immunity ● Professional & Scientific Skills● Introduction to Histology, Anatomy & Physiology

Year Two

Biological Basis of Disease ● Cell & Molecular Biology ● Control & Integrative Physiology ● Biochemistry of Metabolism ● Molecular Immunology ● Bioinformatics for Biomedical Science ● Cellular Pathology/ Clinical Cytology ● Clinical Chemistry ● Haematology ● Medical Microbiology ● Professional Skills ● Introduction to Programming for Biology

Year Three

Professional Placement (Industry) ● Bioinformatics & Data Analytics ● Molecular Immunology ● Biosensor Development & Bioproduct Development ● Pharmacology & Toxicology ● Gene Therapy & Genetic Engineering

Year Four

Chromosomal Diagnostic Genetics ● Molecular Diagnostics in Microbiology ● Research Methods & Data Analysis ● Point of Care Diagnostics ● Bioentrepreneurship & Bioindustry skills ● Molecular Oncology ● Omics ● Research Project

What are my... Career Opportunities?

Molecular Diagnostics is the fastest growing area of the in vitro diagnostics (IVD) industry sector. Graduates of this programme will be uniquely placed to tap into this rapidly growing market in commercial areas such as the in-vitro diagnostic industry. Graduates will also be ideally placed to pursue additional qualifications and follow a research or academic career path.

This programme will not qualify graduates for membership of the Academy of Clinical Science and Laboratory Medicine (ACSLM) Ireland. Membership of the ACSLM is required for practice as a Medical Scientist in Ireland.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates may be accepted onto a wide range of taught Masters (MSc) programmes or continue to further research to MPhil or PhD.

Are there study abroad options?

Yes, the 12-week Research Project may be carried out in one of a number of partner Institutions in the EU under the Erasmus programme, including Sweden, Belgium, Portugal and Spain.

You might also be INTERESTED IN:

- Biomedical Science - DT204 **Pg 196**
- Biomolecular Science - DT226A **Pg 200**
- Biosciences - DT259 **Pg 246**

EOLAÍOCHT BHITHMHÓILÍNEACH
BIOMOLECULAR SCIENCE

BSc Leibhéal 8 / Level 8

ENTRY REQUIREMENTS:

Students should have an appropriate BSc Ordinary Degree or equivalent in Biological Sciences or Biomedical Sciences with a Distinction or Merit, Upper Division Graduate or a BSc General Degree with the equivalent 60% or greater. In the studies previously undertaken by applicants, biochemistry, molecular biology and immunology must constitute major subjects in the programme curriculum.

What is... Biomolecular Science?

Students will be provided in-depth theoretical and practical knowledge on a range of topics, reflecting the integrated nature of biomolecular science, such as the importance of macromolecular structure, interactions and function in relation to normal and diseased states as studied in Biochemistry. Advanced Molecular Biology reviews recombinant DNA technology, gene mutation and gene expression in the identification, diagnosis and treatment of human disease.

Learning Outcomes:

What will I Study?

In preparation for the Scientific Project, the principles and practice of qualitative and quantitative analysis of biomolecules as well as research methods and data analysis will be studied.

Two optional pathways taken alongside core modules allow students to tailor their degree to areas of interest:

Option 1 provides students with the key concepts of process design relating to biomolecules of industrial importance and the development, manufacturing and marketing of biopharmaceutical products.

In Option 2 the molecular and genetic mechanisms of disease will be explored including practical application of investigative and diagnostic technology.

It is important to note that options are offered subject to: (a) the resources available and (b) student numbers requesting the option (there is a requirement for a minimum student registration on a module). In any given year only one of the two optional pathways may be offered.

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 2831 (Sara Lynch, Course Director)
sara.lynch@dit.ie

COURSE CODE:
DT226A

COURSE LENGTH: 1 YEAR

APPROX: TBC

LOCATION: KEVIN ST

POINTS 2017
ADVANCED ENTRY

Module Listing

Year One (2 semesters)
Core Modules: Biochemistry ● Advanced Molecular Biology ● Molecular Immunology ● Analytical Methods in Biosciences ● Research Methods & Biostatistics ● Scientific Project.
Optional Pathways (2 modules each): Bioprocess Technology & Drug Development ● Molecular Mechanisms of Disease

What are my... Career Opportunities?

There are career opportunities for graduates of this programme in bioscience, biopharmaceutical, biotechnology, veterinary, diagnostics and allied industries. In addition, graduates can obtain employment in research in the bioscience, biotechnology and health service sectors.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates of this programme may proceed to postgraduate studies leading to the award of MSc, MPhil or PhD at research institutes and universities worldwide.

Are there study abroad options?

Opportunities are available for students to undertake their project module in a partner institution within the EU under the Erasmus plus programme.

You might also be INTERESTED IN:

- Biomedical Sciences - DT204 **Pg 196**
- Biomedical & Molecular Diagnostics - DT206 **Pg 198**

EOLAÍOCHTAÍ CEIMICEACHA LE CEIMIC MHÍOCHAINEACH
CHEMICAL SCIENCES WITH MEDICINAL CHEMISTRY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	03/H7	06/H7

Other Requirements

At least H4 in one of : Physics, Chemistry, Physics and Chemistry, Biology or Technology

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Chemical Sciences with Medicinal Chemistry?

This chemistry degree focuses on how chemistry can be used for medicinal applications - including drug design, synthesis, and delivery. Graduates of this programme will have skills and expertise in synthetic chemistry applicable for the pharmaceutical and other industries. The programme is recognized by the Royal Society of Chemistry and the Institute of Chemistry of Ireland.

Learning Outcomes:

What will I Study?

The 4 year degree course is designed around a core chemistry syllabus in organic, inorganic, and physical chemistry and incorporates analytical chemistry. The medicinal chemistry component is introduced in the first year of the course and built on in subsequent years. In second year, chemical and pharmaceutical processes and technology are explored and themes developed in third and fourth year. The degree course has a holistic approach to its subject matter to prepare students for the employment market. A key feature in Year 3 of the course is the placement abroad, which begins in Semester 2. Access to a suite of modern instruments and equipment ensures that a high standard of laboratory skills is achieved. Important transferable skills such as communication, teamwork, planning, problem-solving and critical analysis are also developed during the degree course.

What our Students say!

- I enjoyed my undergraduate studies in DIT, I particularly enjoyed the practical element of the course. I believe this practical element of DIT courses is one of the major strengths of a DIT award, bringing a proper sense of the applications of chemistry outside the class room.

Further Information

www.dit.ie/chemistry

School of Chemical & Pharmaceutical Sciences

01 402 4570 (Dr. Gavin Sewell)
gavin.sewell@dit.ie

EUROPEAN SOCIAL FUND

Ireland's EU Structural Funds Programmes 2007 - 2013

Co-funded by the Irish Government and the European Union

COURSE CODE: **DT299**

COURSE LENGTH: 4 YEARS

APPROX: 20 PLACES

LOCATION: KEVIN ST

POINTS 2017 **423**

Module Listing

Year One
Introductory modules in science, along with degree specific modules in medicinal chemistry and the human body and disease.

Year Two
A range of modules in chemistry, as well as specialized modules in stereochemistry, biomolecules & organic synthesis.

Year Three & Year Four
In Year 3 and Year 4, students continue to expand their knowledge in chemistry and its applications to medicinal chemistry and pharmaceutical processes. Year 3 also includes an ERASMUS/placement in semester 2, where students spend 6 - 7 months working in a professional environment. In Year 4, students complete a research project in a topic of interest to them.

What are my... Career Opportunities?

Graduates can anticipate working in the pharmaceutical industry facilitating the development of new and better medicines as well as the chemical (paints, dyes, adhesives, inks), and allied industries (food, beverages, medical devices, cosmetics, semiconductors). The skill-set developed provides the graduate with an excellent basis for working in a variety of areas including production support, quality and assurance, technical services, research and development and technical sales. Graduates can also take a career in the teaching profession.

'The Programme is recognised by the Institute of Chemistry in Ireland for Graduate Membership and accredited by the Royal Society of Chemistry. In addition it is recognised by The Teaching Council for teaching Chemistry to Leaving Certificate level.'

*For more career development options please see inside front cover

What other options do I have after completion?

Students can continue their studies on taught or research programmes (Masters, PhD) at DIT or other institutions as well as professional courses such as the Postgraduate Diploma in Education.

You might also be INTERESTED IN:

- Forensic & Environmental Chemistry - DT203 **Pg 218**
- Medicinal Chemistry & Pharmaceutical Sciences - DT261 **Pg 250**

EOLAÍOCHT TOMHAIS CHLINICIÚIL
CLINICAL MEASUREMENT SCIENCE

BSc Leibhéal 8 / Level 8

All students will be vetted by An Garda Síochána.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology, Mathematics or Applied Mathematics
6	2H5's	03/H7	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:	FIVE DISTINCTIONS WHICH MUST INCLUDE
CASLT/5M3807 Laboratory Techniques	C20139/5N1833 Mathematics, OR Leaving Certificate Mathematics 03/H7

What is... Clinical Measurement Science?

This programme (which is unique in the country) allows students to learn how to measure and image the physiological activity of the human body and provide diagnostic information to medical staff. As well as traditional lectures, students will gain extensive practical experience, including placement in a hospital environment in third and fourth year. It is not necessary to have studied physics prior to entry.

Learning Outcomes:

What will I Study?

In the first two years the students learn about the physiology, anatomy and biochemistry of the body and the use of technology in providing diagnosis.

Students spend their third and some of fourth year on hospital placement to learn how to apply their training and knowledge in a clinical setting. A hospital based research project is undertaken in fourth year.

PLEASE NOTE: Hospital placements may be at any location around Ireland, there is no guarantee that a student will have all of their placements in Dublin.

IMPORTANT INFORMATION

In order to undertake the hospital placement, students must complete a health screening and vaccination programme, the nature of which will change from time-to-time depending on the requirements of the health service. This service will be provided by the DIT Student Health services, although there may be a cost associated with this.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

Further Information

www.dit.ie/physics

School of Physics

01 402 4782 (Prof. Patrick Goodman)
01 402 4559 (School Secretary)
pat.goodman@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT229	4 YEARS	24 PLACES	KEVIN ST	466

Module Listing

Year One
Biology ● Physics ● Chemistry ● Mathematics & Statistics ● Computer Applications

Year Two
Seminars ● Medical Instrumentation ● Mathematics ● Computer Applications ● Imaging ● Pharmacology ● Physiological Biochemistry ● Human Physiology & Anatomy

Year Three
Hospital Placement* in three of the four following disciplines, together with introductory lectures in each discipline:
Cardiology ● Respiratory Measurements ● Vascular Technology ● Neurophysiological Studies.

Year Four
Pharmacology ● Hospital Work Placement* ● Seminars/ Case Studies ● Professional/Social studies ● Advanced Instrumentation ● Hospital or Industry based project
Each student will study two of the following four disciplines:
Cardiology ● Respiratory Measurements ● Vascular Technology ● Neurophysiological Studies.

*Hospital Placement may be in locations outside Dublin.

What are my... Career Opportunities?

Employment rates have been excellent to date, with most graduates finding employment within the health service in Ireland. There are also employment opportunities in the field of medical equipment. Many graduates undertake postgraduate research after gaining a few years clinical experience.

*For more career development options please see inside front cover

What other options do I have after completion?

A number of graduates from the programme, have undertaken part-time work based research degrees following completion of the programme.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

You might also be INTERESTED IN:

- Biomedical Sciences - DT204 **Pg 196**
- Biomedical & Molecular Diagnostics - DT206 **Pg 198**
- Physics with Medicial Physics & Bioengineering - DT235 **Pg 238**
- Public Health Nutrition - DT225 **Pg 240**

EOLAÍOCHT RÍOMHAIREACHTA
COMPUTER SCIENCE

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	04/H7	06/H7

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Computer Science?

Did you ever wonder how emails get sent, how Google works, how to develop your own computer game? Are you interested in understanding what goes on behind the scenes at Amazon or eBay? Do you want to know what an MP3 file actually is or how podcasting and ITunes work? Then this programme is for you. As well as answering these questions, this programme will prepare you to work as a software application developer in a variety of commercial and industrial environments. It will equip you with the understanding and skills needed in an exciting and constantly changing industry.

What our Students say!

- I got a great internship during third year and was able to learn lots about large systems making me ready for a career after college.
- I value being one of the graduates from this course, as it did not just help me develop concrete skills that reflected the state-of-the-art technologies, but also offered me an opportunity to obtain industrial experience as part of the curriculum.
- There is a heavy emphasis on gaining practical and applicable skills for today's marketplace, however this is complemented very well by theory based modules which allow you to take step back from the technical details and understand why you're doing something in a particular way.
- I found the lecturers very approachable and helpful at all times. The learning environment was very open and tutorials often involved lively debates and discussions.
- I also learned about cutting-edge technologies under the guidance of highly knowledgeable and approachable staff.

Learning Outcomes:

What will I Study?

You will spend the early years of the course gaining a thorough grounding in the fundamentals of computer science, you will spend the middle part of the programme developing highly relevant skills in software design and development, and in final year you will have the opportunity to specialise your knowledge and skills in a variety of areas, including:

Enterprise Systems Development: Where you will learn how to create large, scalable, safe, secure and reliable software systems using the latest technologies.
Applied Intelligence: Where you will learn about advanced methods in computer science which can be applied in business (e.g. predicting trends) and elsewhere (e.g. robotics).
Digital Games Development & Simulation: Where you will learn how to design and implement computer games and simulated environments which model novel and complex worlds and characters.

The third year of the programme is focused on experiential learning. You will participate in a business and enterprise module, and may then opt to participate in our highly successful work placement programme. Our work placement programmes's success is due to the close liaison we have developed and maintained with industry partners throughout the history of our school. Alternatively, you can work with community organisations on our innovative service-learning module, whereby you take responsibility for significant ICT projects in the community.

The school has institutional links with many industrial leaders such as Oracle, Microsoft, IBM, Datalex and Computer Associates through sponsorship, work placement and project co-operation.

Further Information

www.dit.ie/computing

School of Computing

01 402 4704 (Barbara Byrne)
soc-admin@dit.ie

EUROPEAN SOCIAL FUND

Ireland's EU Structural Funds Programmes 2007 - 2013

Co-funded by the Irish Government and the European Union

COURSE CODE: **DT228**

COURSE LENGTH: 4 YEARS

APPROX: 74 PLACES

LOCATION: KEVIN ST

POINTS 2017 **443**

Module Listing

Year One
Programming ● Web Development ● Computer Architecture and many other subjects to give you a solid foundation in Computer Science

Year Two
Object Oriented Programming ● Databases ● Software Engineering ● Human Computer Interaction ● Operating Systems and other subjects which give you relevant, practical skills

Year Three
Work Placement ● Service-Learning ● International Exchange ● Graphical User Interface Programming ● Client-Server Programming ● Cloud Computing ● Games Logic and Design

Year Four
Specialise your study into an area such as:
Enterprise Systems Development ● Applied Intelligence ● Digital Games Development & Simulation

What are my... Career Opportunities?

Graduates of this programme will be uniquely qualified in a wide range of computer development areas. These may be in the mainstream computer industry but will also occur in stimulating, leading application areas such as Internet Applications Development, Games Development, Enterprise Systems, E-Commerce, Music Technology, Systems Technology, Systems Security, Knowledge Management and Data Mining. Graduates of this programme will also be well qualified to pursue postgraduate studies to MSc, MPhil and PhD levels.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to a range of Masters Degrees in DIT and elsewhere in Higher Education.

Are there study abroad options?

Yes, students can apply to participate in an international exchange for the second half of third year as part of their experiential learning.

You might also be INTERESTED IN:

- Computer Science (International) - DT282 **Pg 210**
- Computer Science (Infrastructure) - DT211 **Pg 208**
- Networking Applications & Services - DT080B **Pg 152**
- Networking Technologies - DT080 **Pg 190**
- Business Computing - DT354 **Pg 100**
- Business Analytics - DT302 **Pg 94**

EOLAÍOCHT RÍOMHAIREACHTA (INFREASTRUCHTÚR)
COMPUTER SCIENCE (INFRASTRUCTURE)

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	04/H7	06/H7

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Computer Science (Infrastructure)?

Did you ever wonder how you can share your experiences or play a multi-player game with your friends who are in different places? Or how you can check when the next bus will arrive in real time as you walk around the streets?

Computer Science (Infrastructure) is about developing software and infrastructure for applications ranging from those on smart devices through to those in global corporations. This programme provides the skills required to build data centres and networks and to develop software securely, individually and in teams. Recent graduates work as software developers, software engineers and system administrators.

No prior programming experience is required.

Learning Outcomes:

What will I Study?

Over the four years of this programme, you will gain a working knowledge of the components of a computer and a network. You will become familiar with the components of an operating system and learn to administrate large distributed systems. You will write programs in multiple languages for different platforms, varying from single-user, single-platform applications to multi-user, multi-layered distributed systems. You will learn how to ensure that an IT infrastructure is compliant with the most effective security techniques. You will learn many technologies; web clients and servers, data storage, manipulation and analysis, the use of different platforms and different physical devices, techniques for developing systems varying from small mobile devices to cloud-based services. You will learn how to integrate these technologies, writing scripts and software to make them work together. You will study the architecture and infrastructure of large systems; how to design, document, implement and manage them using industry-standard techniques. You will develop skills for working in teams and individually and undertake and present project work throughout the four years to enhance your communication skills. In your final year, you will present your work at a highly regarded project fair to an audience of industry partners and experts.

Further Information

www.dit.ie/computing

School of Computing

01 402 4704 (Barbara Byrne)
soc-admin@dit.ie

COURSE CODE: **DT211**

COURSE LENGTH: 4 YEARS

APPROX: 54 PLACES

LOCATION: KEVIN ST

POINTS 2017 **371**

Module Listing

Year One

Programming ● Robot Programming ● Build a PC ● Program Design ● Algorithms ● Mathematics ● Operating systems ● Networking ● IT Fundamentals ● Communication skills

Year Two

Programming ● Networking ● Microprocessors ● Operating Systems ● System Administration ● Databases ● Web Development ● System Infrastructure ● Human Computer Interaction

Year Three

Semester 1: Mobile Software Development ● Databases, Networking ● Network Programming ● Systems Infrastructure & Architecture ● Web Development

Semester 2: You can apply for work placement in the second half of third year, giving you invaluable experience in the IT industry, which can help you to put your final year in context, or you can study further modules: Cloud Computing ● IT Security ● Choice of other modules

Year Four

Security ● Data Management ● Enterprise Systems Infrastructure ● Administration ● Major fourth year project and a choice of other modules including;

● Artificial Intelligence ● Games Development ● Graphics & Image Processing ● Web Development

What are my... Career Opportunities?

Graduates from this programme are working as Software Engineers, Software Developers, Systems Administrators, Virtualisation Engineers, IT Security experts and Database Administrators in global organizations such as IBM, Amazon and Oracle, local successful companies such as Ocuco, Version 1 and Digital Planet and in start-ups. Many also work in IT departments of banks, building societies and government organizations or as software or infrastructure consultants. Application areas include Intelligent Cities, Ethical Hacking, search engine development, games and legal and financial software.

*For more career development options please see inside front cover

What other options do I have after completion?

Students earning BSc (Hons) will be eligible for Professional Membership of BCS, The Chartered Institute for IT (MBCS) and are qualified to pursue postgraduate studies in DIT or elsewhere to MSc, MPhil or PhD levels.

The programme offers early exit awards under restricted conditions; a Higher Certificate on exit after Year 2 and a BSc (Ord) on exit after Year 3.

Are there study abroad options?

There is an opportunity for students to apply to participate in an international exchange for the second half of third year as part of their experiential learning. Erasmus places are available in a number of European countries and there are also other student exchanges in countries such as South Korea. All modules taken abroad are taught through English.

What our Students say!

- "Having worked as a computer technician for a couple of years I was made redundant and found I was being overlooked for jobs because of my lack of formal qualifications. I started in a course in DIT. I found the diversity of subjects and the pace of the course suited me very well. As part of the course I worked as an intern for the company with whom I now work full-time. The course continued to be challenging and interesting throughout, and has given me a career path I would have never achieved on experience alone."

You might also be INTERESTED IN:

- Computer Science - DT228 **Pg 206**
- Computer Science (International) - DT282 **Pg 210**
- Networking Applications & Services - DT080B **Pg 152**
- Networking Technologies - DT080 **Pg 190**
- Business Computing - DT354 **Pg 100**
- Business Analytics - DT302 **Pg 94**

EOLAÍOCHT RÍOMHAIREACHTA (IDIRNÁISIÚNTA)
COMPUTER SCIENCE (INTERNATIONAL)

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	04/H7	06/H7

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Computer Science (International)?

Software is a global industry with a strong presence in Dublin, which is considered as the Silicon Valley of Europe. Many software companies possess a truly-international presence such as Facebook, Google and Amazon and encounter unique challenges both technically and culturally. So if you have wondered how to build software for the wider international market, how to effectively communicate with distributed teams and how to be successful working on large scalable applications then this programme is for you. As well as providing you with the skills to work as a global software engineer, this programme gives you the core computer science skills to work as an application developer with the skills to grow and evolve within an ever changing global industry.

Learning Outcomes:

What will I Study?

This programme will deliver all the fundamentals in Computer Science with a strong emphasis on Internationalisation and Globalisation from the outset. Students are taught IT skills early on that are required in the International IT industry. This will include not only core software design and development skills, but also highly sought after international skills such as global citizenship, software localisation, entrepreneurship, creating webinars and a foreign language (select either German, Chinese or Korean).

In year 3, you have an option to undertake an International Industrial Placement and gain valuable international work experience in an IT company. In addition, all year 3 students participate in the Global Classroom, which is a virtual, online classroom comprised of teams of international students on exchange at our international university partners. This emphasizes the importance of globalisation in the workplace and simulates how a team can design and develop software with team members located in different locations.

In the final year, you will have the opportunity to specialise your knowledge and skills in a variety of areas such as Enterprise Systems Development, Applied Intelligence or Digital Games Development & Simulation. The School has strong links with global industry companies such as Google, Microsoft and IBM amongst others, through sponsorship and project co-operation. Students have the opportunity to show-case their final year projects at our unique project fair and meet with these and other invited industry company representatives.

Further Information

www.dit.ie/computing

School of Computing

01 402 4704 (Barbara Byrne)
soc-admin@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT282	4 YEARS	40 PLACES	KEVIN ST	360

Module Listing

Year One

Programming ● Web Development ● Computer Architecture ● Global Citizenship ● Software for the Global Market (User Interface Design) ● Foreign Language & many other subjects to give you a solid foundation in International Computer Science

Year Two

Object Oriented Programming ● Databases ● Software Engineering ● Software for the Global Market (Internationalisation & Localisation) ● International Project Management (Webinars & Entrepreneurship) ● Foreign Language ● Operating Systems & other subjects which give relevant practical skills

Year Three

International Study Exchange ● Global Classroom ● Mobile Software Development ● Web Development and Deployment ● Software Engineering ● Client-Server Programming ● Foreign Language ● International Internship

Year Four

Specialise your study into an area such as:
Enterprise Systems Development ● Applied Intelligence ● Digital Games Development & Simulation

What are my... Career Opportunities?

Graduates of this programme will be uniquely qualified to successfully work in the international IT industry in a wide range of computer roles. Employment may be in the mainstream computer industry with a unique understanding of how multi-cultural teams work effectively, allowing opportunities for working in multi-national corporations. With a strong computer science background in such areas as Internet development, cloud computing, mobile software, enterprise systems, artificial intelligence and games technology opportunities, graduates will be well suited to seek employment across all computing disciplines while bringing a solid understanding of software internationalisation. Qualified graduates will also be well suited for postgraduate study.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to a range of Masters Degrees in DIT and elsewhere in Higher Education.

Are there study abroad options?

Yes. If a student does not undertake an International Industrial Placement, they must spend their second semester in year 3 on an international study exchange at one of our university partners in Europe, China or Korea. There are also opportunities for spending all of year 3 studying abroad participating in our Double-Degree programmes in either Germany, Finland or Korea.

You might also be INTERESTED IN:

- Computer Science - DT228 **Pg 206**
- Computer Science (Infrastructure) - DT211 **Pg 208**
- Networking Applications & Services - DT080B **Pg 152**
- Networking Technologies - DT080 **Pg 190**
- Business Computing - DT354 **Pg 100**
- Business Analytics - DT302 **Pg 94**

EOLAÍOCHT NA CÓCAIREACHTA
CULINARY SCIENCE

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	04/H7	06/H7

Other Requirements

At least O4/H7 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Home Economics or Applied Mathematics.

What is...Culinary Science?

This programme is a joint degree offered by the School of Culinary Arts and Food Technology and the School of Food Science and Environmental Health. The BSc (Honours) in Culinary Science is a four year full-time programme. The programme provides graduates with the knowledge and practical skills necessary to operate as a development or concept chef for food companies engaged in food product development. The programme builds on the strong links between; food and culinary industries providing students with the opportunity to work in dynamic food industries through our internship programme. Graduates of the programme will also have opportunities to work in the culinary industry as chefs, in food research and development, and food business managers.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

Learning Outcomes:

What will I Study?

The first two years of the programme provide students with practical skills in kitchens and food science and nutrition in our labs. The programme encourages the development of in-depth theoretical, academic knowledge and understanding of the food science and culinary arts. The kitchen skills focus on professional cookery whereas the science focuses towards food research and experimentation. A Development Chef is a highly skilled specialised individual who uses culinary skills and scientific knowledge to create unique food products.

The programme has practical hot kitchen, pastry and food science modules which have been designed to equip the food student with the knowledge and skills necessary to gain employment in the culinary or food science industries. The programme begins with modules in professional cookery – developing an understanding of how to cook and progressing to the production and development of a range of dishes and processes that are underpinned by food science and business modules.

In year three, students have the option of national or international internship (work placement) in food science and culinary arts reflecting the diversity of this BSc (Hons) in Culinary Science. Both schools have strong industry links to develop the participants' professional and scientific skills. Years three and four focus on the everyday needs of a dynamic concept/development chef. Graduates of the programme will gain:

- Skills and knowledge in the sciences and culinary arts which are fundamental to the development of novel foods and drinks.
- Business and entrepreneurship skills and knowledge so they can be innovative and to aid them in setting up a food business.
- The ability to appropriately judge in a number of complex planning, design, technical and/or management functions related to food products, processes and services including resources.
- During a six month internship learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently, professionally and ethically.
- Advanced skills to conduct an undergraduate thesis, demonstrate decision making and use creative skills.
- The specialised skills and knowledge which will allow entry into a career in the food industry as Development Chefs, Food Product Developer, or related discipline.

Further Information

www.dit.ie/culinaryartsandfoodtechnology

School of Culinary Arts & Food Technology and School of Food Science & Environmental Health.

01 402 4346 (Dr Roisin Burke, Programme Chair)
01 402 4344 (School Office)

roisin.burke@dit.ie
scaft@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT405	4 YEARS	32 PLACES	CATHAL BRUGHA ST	340

Module Listing (Indicative Content Only)

Year One

Chemical Applications ● Culinary Science & Food Technology ● Food Safety ● Kitchen & Larder ● Laboratory Techniques & Computer Applications ● Introductory Nutrition ● Chemical Applications ● Pastry ● Applied Food Industry Communication ● Maths for Scientists ● Fundamentals of Business Management & Marketing

Year Two

Culinary Science & Food Technology ● Pastry ● Culinary Health Choices ● Diet, Health & Disease ● Introduction to Business Finance ● Fundamental Molecular Gastronomy ● Food Ingredients & Consumer Foods ● Basic Food Microbiology ● Food Marketing ● Fundamental Sensory Evaluation ● Gastronomy ● Financial & Cost Accounting

Year Three

Food Physics ● Concept Innovation & Product Design ● Food Process Technology ● Intermediate Microbiology ● Introductory Food Science & Analysis ● Research Methodology ● Internship/Industrial Placement

Year Four

Intermediate Molecular Gastronomy ● Lifecycle Nutrition ● Food Regulatory Affairs ● Food Entrepreneurship ● Project/ Dissertation ● Internship/Industrial Placement

Options available are listed in detail in the module catalogue that is managed separately on the website - www.dit.ie/catalogue

What are my... Career Opportunities?

Major food companies are investing heavily in innovative approaches to develop novel high quality foods and need Culinary Science graduates. Currently many food businesses employ both chefs and scientists but a graduate that has skills and knowledge of both disciplines would readily gain employment as a Development Chef or Food Product Developer. The Food Industry needs to satisfy the demands of consumers requiring value added, high quality tasty and enjoyable food products. The BSc (Hons) in Culinary Science will produce graduates who will be able to satisfy the demands of Government policy, the Food Industry and Society. Graduates of the programme will have developed the knowledge and skills necessary to operate in the wider food industries or operate their own food business.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to The MSc in Culinary Innovation and Food Product Development where graduates are highly sought after. The MSc in Food Safety Management is an attractive programme for food safety and regulatory professionals. The MSc in Environmental Health and Safety is among the most highly regarded in Ireland and attracts a wide range of industry professionals. These programmes can be accessed on a part time or full time basis.

In additional both Schools offer PhD research opportunities for high achieving graduates.

Are there study abroad options?

In year three, students have the option of national or international internship (work placement) in food science and culinary arts reflecting the diversity of this BSc (Hons) in Culinary Science.

This programme also offers the learner a study exchange opportunity in year three.

You might also be INTERESTED IN:

- Culinary Arts - DT407 **Pg 16**
- Food Innovation - DT421 **Pg 216**
- Nutraceuticals in Health & Nutrition - DT420 **Pg 228**

FOLLÁINE CHOMHSHAOIL
ENVIRONMENTAL HEALTH

BSc Leibhéal 8 / Level 8

All students will be vetted by An Garda Síochána.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2H5's	04/H7	06/H7	At least 04/H7 in one of: Physics, Chemistry, Physics and Chemistry or Biology.

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Environmental Health?

Our environment and lifestyle affects our health. The air we breathe, the water we drink, the food we eat, our homes and workplaces all can have an influence on our state of health. Students on this programme gain experience of examining issues such as food safety, environmental pollution, occupational safety and health risk management and identifying how these should be managed.

Learning Outcomes:

What will I Study?

Businesses and individuals must comply with a range of health & safety standards- these could be in food, occupational and environmental areas. As an Environmental Health student, you will learn how to evaluate relevant situations, solve problems, and manage these areas. The programme is applied in nature, but has a strong scientific underpinning, especially in Years One and Two. The programme develops through subsequent years into applied areas of environmental health and examines current and developing issues. There is a period of professional practice (placement) where you can learn how to apply your knowledge of environmental health.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

What our Students say!

- The programme was wide-ranging with a wonderful basis in a range of disciplines. I then decided I wanted to be a specialist in one particular discipline and returned to DIT to do a two years research masters in health and safety. I am now managing the Health and Safety Department in a large teaching hospital.

  The Environmental Health course gave me an introduction to many of the requirements needed in the world of health and safety. Health and safety practitioners come from a variety of backgrounds, which can include engineering, science, law and environment. No one individual would possesses all of these qualifications, but Environmental Health certainly provides you a good grounding in each of the disciplines. It's a course I would highly recommend.

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 4355 (School Office)
fseh@dit.ie

COURSE CODE: **DT491**

COURSE LENGTH: 4 YEARS

APPROX: 32 PLACES

LOCATION: CATHAL BRUGHA ST

POINTS 2017 **307**

Module Listing

Areas of study include: Environmental Health ● Biology ● Chemical Applications ● Microbiology ● Building Technology ● Computations ● Ecology and Entomology ● Food and Water Chemistry ● Communications ● Physics ● Noise and Radiation ● Environmental Health Science ● Occupational Safety and Health ● Food Safety ● Food Technology ● Public Health ● Health Promotion ● Environmental Health Law and Management ● Air Quality and Energy ● Environmental Health Protection ● Environmental Health Management ● Housing Policy and Defects ● Environmental Health Impact and Planning Policy ● Final Year Project.

What are my... Career Opportunities?

Employment opportunities may exist in private and public sectors in areas such as environmental management, health and safety, food safety and health promotion, as well as Environmental Health Officer (EHO) in the state sector. Employers need qualified staff to steer them through their responsibilities in environmental health. State sector EHO's are normally responsible for monitoring and enforcing standards (through advice, education and regulation) in a wide range of areas such as food safety, air and water quality and tobacco policies.

Some career information is also available at the website of the Environmental Health Officers' Association at www.ehoa.ie

*For more career development options please see inside front cover

What other options do I have after completion?

There are a range of taught postgraduate courses (in Ireland and abroad) in aspects of environmental health for graduates who wish to further develop their abilities in certain aspects of environmental health. There may also be research opportunities for graduates on specific environmental health topics.

You might also be INTERESTED IN:

- Public Health Nutrition - DT225 **Pg 240**
- Planning & Environmental Management - DT106 **Pg 154**

NUÁLAÍOCHT AN BHIA (Roghanna Céime - Bia nó Grúdaireacht & Driogadh)

FOOD INNOVATION (Degree Options - Food or Brewing & Distilling)

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least O4/H7 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Home Economics or Applied Mathematics.
6	2H5's	04/H7	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Food Innovation?

The Food Innovation programme covers a comprehensive range of disciplines including science, technology, business and innovation in order to meet requirements of the modern food and drinks industry.

Support is directly provided by these Industries to enhance theoretical knowledge and practical skills delivered by DIT, this includes Industry lectures, field trips, on-site training, contracts of learning through work placement and applied research projects.

Learning Outcomes:

What will I Study?

This programme will allow entry into a career in the food and drinks industry as a technologist capable of ensuring the production of ethical, safe and wholesome food and drinks.

The student will acquire the knowledge of the scientific disciplines fundamental to the development of novel foods and drinks, with the business acumen (including finance and management) to be innovative.

A period of industrial placement is included where skills developed and Health & Safety training can be applied.

Opportunities to develop inter-personal communication skills and research techniques, coupled with report writing and self-learning are integral to the program.

OPEN DAY 2017

DIT AUNGIER ST.

9AM-2PM 01.12-02.12

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 4355 (Dr Catherine Barry-Ryan)

01 402 4495

catherine.barryryan@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT421	4 YEARS	32 PLACES	CATHAL BRUGHA ST	354

Module Listing

Year One

Principles of Systems & Cellular Biology ● Fundamentals of Inorganic & Organic Chemistry ● Digital Skills and Computer Applications ● Introductory Nutrition and Microbiology ● Applied Food Industry Communications ● Principles of Food Processing & Preservation ● Mathematics for Scientists ● Physics ● Business Management & Marketing

Year Two

Structural Biochemistry ● Natural Organic Chemistry ● Diet, Health & Disease ● Food & Beverage Engineering ● Food Process Technology ● Statistics ● Introduction to Instrumentation ● Business Finance ● Food Microbiology ● Quality and Hygiene Systems ● Food Ingredients and Consumer Foods ● Fundamental Sensory Evaluation

Year Three

Core: Shelf life Management & Packing ● Food & Beverage Product Research & Development ● Innovation & Entrepreneurship ● Occupational Safety Management for the Food Industry ● Industrial Placement

Food Stream: Food & Beverage Chemistry & Analysis ● Applied Microbiology ● Training & Auditing

Brewing & Distilling Stream: Science of Brewing & Distilling ● Spirits and Liqueurs ● International Beers & Draught Dispensing Management

Year Four

Core: Innovation and Entrepreneurship ● Strategic Management & Sustainability ● Food & Beverage Marketing ● Choice of Two Optionals - Responsible Research Management & info access ● Project/Dissertation

Food Stream: Advanced Microbiology ● Advanced Food Technology ● Food Safety & Risk Analysis

Brewing & Distilling Stream: Brewing Microbiology ● Science of Brewing and Distilling ● Beverage Regulatory Affairs

What are my... Career Opportunities?

This programme will provide graduates with:

- A programme of education which will allow entry into a career in the food industry as technologists capable of ensuring the production of safe and wholesome foods
- A thorough knowledge of the scientific disciplines fundamental to the development of novel foods and with the business acumen to be innovative
- A broadly based technological education which will allow entry into employment in other sectors of the food or related technical sectors
- An in-depth understanding of food business and the essential components of finance and management

*For more career development options please see inside front cover

What other options do I have after completion?

Current and projected expansion in the food and drinks processing industry will require a greater number of appropriately trained personnel. Our Graduates have careers as entrepreneurs, managers, scientists and technologists in the food and drinks industries, research facilities, government agencies, retail sector and sales etc.

They have varying roles including: Quality control/assurance, new product development, product analysis and safety, laboratory based manufacture, sales etc.

Students who have reached the appropriate honours standard also have access to a range of Masters Degrees and PhD by research in DIT and elsewhere in Higher Education.

Are there study abroad options?

Students may have the opportunity to complete a semester, full year, project work or work placement abroad under the Lifelong Learning Programme/ERASMUS mobility schemes or their equivalent in other countries.

You might also be INTERESTED IN:

- Nutraceuticals in Health & Nutrition - DT420 **Pg 228**
- Public Health Nutrition - DT225 **Pg 240**
- Food Science & Management - DT424 **Pg 256**
- Pharmaceutical Healthcare - DT422 **Pg 232**

CEIMIC FHÓIRÉINSEACH & CHOMHSHAOIL
FORENSIC & ENVIRONMENTAL CHEMISTRY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of: Physics, Chemistry, Physics and Chemistry, Biology or Technology
6	2H5's	03/H7	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Forensic & Environmental Chemistry?

This course is a chemistry programme with modules specialising in forensic and environmental topics. Graduates will have a rigorous scientific training, be good at problem solving and have expert laboratory skills suitable for any career in the Forensic or Environmental sector as well as Pharmaceutical / Chemical industries.

Learning Outcomes:

What will I Study?

If you are interested in pursuing this course of study, you will need an interest in science as well as an interest in solving problems.

The first year of the programme provides an introduction to science as well as an introductory module on forensic and environmental chemistry. In second year, the relevant core chemistry topics are taught as well as some specialised modules in forensic and environmental chemistry.

In the final two years, the emphasis is on forensic and environmental chemistry and includes case studies and development of team-work and critical analysis skills. A six month work placement features between years 3 and 4.

'The Programme is recognised by the Institute of Chemistry in Ireland for Graduate Membership and accredited by the Royal Society of Chemistry. In addition it is recognised by The Teaching Council for teaching Chemistry to Leaving Certificate level.'

Further Information

www.dit.ie/chemistry

School of Chemical & Pharmaceutical Sciences

01 402 4570 (Dr. Gavin Sewell)
gavin.sewell@dit.ie

COURSE CODE: **DT203**

COURSE LENGTH: 4 YEARS

APPROX: 20 PLACES

LOCATION: KEVIN ST

POINTS 2017 **317**

Module Listing

Year One

Year one is designed to establish a solid foundation across the sciences. An introductory module in Forensic and Environmental Chemistry is included along with hands-on activities in these areas.

Year Two

This year provides students with a broad knowledge and understanding of the various branches of Chemistry. In addition, modules in Forensic and Environmental Chemistry are provided which build upon the core chemistry content.

Year Three & Year Four

Over the final two years of the programme, advanced modules in Forensic and Environmental Analysis are delivered featuring realistic case-studies and developing team-working and critical analysis skills. There is a hands-on approach in the use of modern instrumentation including chromatographic and spectroscopic techniques.

- A key feature in Year three is the Work Placement in an industrial environment.
- In Year four, there is a final year project which allows students to demonstrate their knowledge, skills and initiative on a research topic.

What our Students say!

- I really enjoyed this course- lots of labratory work meant that I got to learn about equipment and methods that I now use in my job
- My interest lies in the application of analytical techniques to the investigation of evidence from crime scenes
- My time at DIT has allowed me to travel to seminars and universities abroad for work and further study in forensic sciences

What are my... Career Opportunities?

The exciting career paths open to a graduate of this programme are varied and include monitoring environmental pollution, chemical analysis and forensic analysis, as well as teaching science and chemistry. Careers can be in:

- Environmental monitoring - monitoring levels of pollutants in air, water and soil
- Chemical analysis - characterisation of complex mixtures
- Forensic analysis - chemical analysis employed to assist in solving crime

Such careers can be in environmental laboratories, state laboratories, pharmaceutical, fine chemical, cosmetic and food companies and forensic laboratories.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who complete the programme are eligible to progress to taught and research masters and doctoral programmes in DIT or other higher education institutions as well as the PGDE (for graduates intending to teach at secondary level).

Are there study abroad options?

It is possible during the Year 3 placement to study in an industrial or academic environment abroad as part of the Erasmus programme.

You might also be INTERESTED IN:

- Environmental Health - DT491 **Pg 214**
- Chemical Sciences with Medicinal Chemistry - DT299 **Pg 202**

COTHÚ AN DUINE & DIAITÉITIC
HUMAN NUTRITION & DIETETICS

BSc Leibhéal 8 /Level 8
(Bronnta i gcomhpaáirt ag IT BÁC & Coláiste na Tríonóide) /(Awarded jointly by DIT & Trinity College)

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	3H5's	04/H7	06/H7	At least H4 in Chemistry

All students will be vetted by An Garda Síochána.

What is...Human Nutrition & Dietetics?

Students on this programme are registered in DIT and TCD. The programme is designed to provide an integrated training in the science of nutrition and dietetics and its applications to human health and wellbeing both at the individual and community level.

Nutrition is a branch of science devoted to the study of nutrients. It spans a broad-ranging area, overlapping with many other disciplines including biochemistry, physiology, cell biology, dietetics, medicine, communications and public health.

Dietitians apply knowledge of food, nutrition and other disciplines such as biochemistry, physiology and social science to promote health, prevent disease and aid in the management of illness.

Learning Outcomes:
What will I Study?

The broad aim of this undergraduate programme is to produce graduates who are competent to practice at entry level as a dietitian or public health nutritionist or to work as a nutrition expert in the industrial and/or private sector. The modules studied on the programme will enable competence based on theoretical knowledge, the application of the core sciences to dietetics and human nutrition, the development of scientific and analytical skills and the integration of theory and practice to be developed. To ensure a capacity for evidence-based practice, emphasis will be placed on the development of problem solving skills, the ability to seek, review and critically evaluate and summarise scientific data and information and undertake research and development in Dietetics and Nutrition. Strong emphasis is placed on developing additional transferable skills such as computer literacy, interpersonal and communication skills, ability to work as part of a team and adaptability.

Useful additional information can be obtained from:
The Irish Nutrition & Dietetic Institute (www.indi.ie)
The Nutrition Society (www.nutritionsociety.org)

What our Students say!

- Tara Raftery: The BSc in Human Nutrition and Dietetics is a highly rewarding but challenging programme of study. The highlights for me were my practice placement and my undergraduate research project. Practice placement provides undergraduate students with an excellent opportunity to understand the role of the Dietitian and to establish core competences in hospital and community settings. Undertaking a research project provides an excellent platform into the field of research and proved to be an invaluable learning experience.

  After graduation, I started my career as a Clinical Dietitian. The interest in research and skills developed as an undergraduate allowed me to incorporate small amounts of research into my clinical work. I have embarked on a full-time scholarship funded PhD in the area of Clinical Nutrition. I am very fortunate that the PhD enables me to merge both my clinical and research interests. Suffice to say since completing my CAO, and with the dedicated efforts of the lecturers on this programme, I have not looked back.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 4562
kathy.keogh@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT223	4 YEARS	25 PLACES	KEVIN ST TRINITY COLLEGE DUBLIN	554

Module Listing

Year One

Food Studies ● Introduction to Professional Practice, Communications & Behavioural Science ● Biochemistry & Molecular Biology ● Nutrition Through the Life Cycle ● Nutrition Science ● Introduction to Anatomy & Physiology ● Organ Systems Physiology ● Infection & Immunity ● Evidence Based Practice ● Practice Placement

Special requirements for first year: During year one of the programme you will be required to obtain the following items to complete the course work (approximate prices are included): Lab Coat, Safety Goggles and Manuals (€60), Hepatitis Vaccinations (€90), Immunity Testing (€20), Chef's Uniform & Shoes (€100) and Knife Set (€30)

Year Two

Professional Practice Studies ● Biochemistry of Metabolism ● Introduction to Dietetics ● Nutrition Science ● Control & Integrative Physiology ● Pathophysiology ● Clinical Chemistry ● Nutritional Epidemiology ● Practice Placement

Year Three

Advanced Professional Practice ● Management ● Applied Nutrition ● Medicine & Therapeutics ● Dietetics ● Clinical Laboratory Science ● Applied Nutrition & Metabolism

Year Four

Practice Placement ● Advanced Nutrition & Dietetics ● Data Analysis & Interpretation ● Research Project

Placement Based Studies: Practice placements are a compulsory element of the programme. These placements are divided into three blocks in Year One, Year Two and Year Four and are undertaken throughout the country.

Each practice placement will be followed by a period of college based consolidation. Students are responsible for their own upkeep during these periods of practice placement since they are unpaid.

What are my... Career Opportunities?

Clinical Nutrition (hospital and community dietetics), Public Health Nutrition, Nutrition Industry (product development, marketing, consumer information), Education (second or third level), Research (public or private sector). The joint DIT/TCD BSc programme in human nutrition & dietetics is the only such degree programme in the Republic of Ireland.

Graduates are well placed to obtain employment in the public or private sectors as dietitians (or clinical nutritionists) in the hospitals or community care areas of Ireland or the UK.

With some further study towards licensing examinations, they may also find jobs in dietetics in the US, Australia or New Zealand. However, they are also equipped with the necessary skills to work effectively in the private sector; in food companies or in clinical nutrition product sales and marketing. Some students have chosen to pursue their academic careers in research or education.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who complete the BSc in Human Nutrition and Dietetics can undertake MPhil and PhD degrees in laboratory, clinical or community-based research. Graduates have also undertaken higher degrees in management, marketing, public relations or science communication. Some have undertaken graduate programmes in medicine or the higher diploma in education.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

You might also be INTERESTED IN:

- Nutraceuticals in Health & Nutrition - DT420 **Pg 228**
- Public Health Nutrition - DT225 **Pg 240**

MATAMAITIC THIONSCLAÍOCH
INDUSTRIAL MATHEMATICS

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	*Or Applied Mathematics
6	2H5's	*O2/H6	O6/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Industrial Mathematics?

Industrial mathematics is an interesting and relevant branch of mathematics that studies the skills most desirable in the workplace. The programme has been carefully structured to offer the training, transferable skills and knowledge that employers in the commercial, financial, industrial and public sectors seek in graduates. A particular focus of the programme is the analysis and solution of real-world mathematical problems.

Learning Outcomes:

What will I Study?

This programme is designed to equip graduates with the skills and knowledge required to apply mathematical modelling and an analytical approach to real-world problems in industry.

Years 1 and 2 give a broad basis of subjects in applied and pure mathematics, statistics, and operational research. Introducing mathematical modelling and relevant topics in computing are also important features of years 1 and 2. Years 3 and 4 consist of advanced modules in mathematical modelling, financial mathematics, operations research and mathematical statistics. Many of these modules integrate industry relevant software.

Throughout the programme, there is an emphasis on laboratory-based work and problem-based learning via mathematical modelling, computer programming, computer applications, case studies and problem-solving, and the development of professional skills (e.g. communication skills, effective team-work strategies and project management). The programme includes a six-month work placement during year 3 enabling students to experience a working environment and gain experience of using their analytical, problem solving and computer skills.

Further Information

www.dit.ie/maths

School of Mathematical Sciences

01 402 4842 (Maev Maguire)
maev.maguire@dit.ie

COURSE CODE: **DT220**

COURSE LENGTH: 4 YEARS

APPROX: 20 PLACES

LOCATION: KEVIN ST

POINTS 2017 **247**

Module Listing

Year One

Foundation Mathematics ● Calculus ● Discrete Mathematics ● Linear Algebra ● Statistics ● Algorithms ● Introduction to Scientific Python ● Introduction to Mechanics with Python ● Professional Development ● Mathematical Modelling ● Mathematics Laboratory

Year Two

Geometry ● Calculus ● Real Analysis ● Practical Computing for Mathematics ● Linear Algebra ● Discrete Mathematics ● Operations Research ● Statistics ● Numerical Methods ● Operating Systems ● Professional Development ● Mathematics Modelling

Year Three

Numerical Analysis & Applications ● Ordinary Differential Equations ● Statistics ● Mathematics Practical ● Stochastic Mathematical Modelling ● Financial Mathematics (plus a specialist, optional module chosen from a selection of modules in pure & applied mathematics, statistics, operations research & financial mathematics) ● Six-month Work Placement

Year Four

Partial Differential Equations ● Financial Mathematics ● Regression ● Queuing Theory & Markov Processes ● Case Studies in Industrial Modelling ● Financial Mathematics ● Industrial/Commercial Statistics ● Project - a supervised, in-depth study of a pertinent, interesting problem in mathematics ● Plus specialist optional modules (two to be chosen) from a selection of topics in pure & applied mathematics, statistics, operations research & financial mathematics.

What our Students say!

- A degree in maths can open doors to many areas of employment and this allowed me to go into the course knowing that I would not be locked into any specific type of job on finishing college. The course allowed me to experience many different areas of maths, so when it came time to pick options for third year, I found it easy to choose because I had seen each area had practical uses and knew what areas of industry they would be suited to.

What are my... Career Opportunities?

This programme has been specifically designed to address the need for highly-skilled, numerate, flexible graduates that are able to formulate and apply cutting-edge modelling and statistical analysis, and apply problem-solving techniques to real-world problems.

Mathematics graduates have a wide range of interesting careers available to them: e.g. in financial services, industrial R & D, medical statistics, teaching, software development, systems analysis, telecommunications, meteorology, civil service, environmental control & defence, economic & social research and a wide range of applied technologies.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates will have developed a capacity for independent study and be in a good position to progress to postgraduate study and research. In particular, graduates who reach the appropriate honours standard will be eligible to undertake masters degrees or research degrees in the School of Mathematical Sciences, in DIT or elsewhere in Higher Education.

Are there study abroad options?

There is an option in some semesters of the programme to study in other european institutions via Erasmus.

You might also be INTERESTED IN:

- Mathematical Sciences - DT205 **Pg 226**

CÓRAIS FAISNÉISE & TEICNEOLAÍOCHT FAISNÉISE
INFORMATION SYSTEMS & INFORMATION TECHNOLOGY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	**Important:** Students applying on the basis of their Leaving Certificate results MUST have completed their Leaving Certificate at least 3 Years prior to applying for this programme. **Applicants may be required to attend for interview**
6	2H5's	04/H7	06/H7	

What is... Information Systems & Information Technology?

Information Systems and Information Technology (IS&IT) is at the core of practical computing applications across all types of businesses and organizations. This course gives you practical and valuable knowledge and skills for working in the (IS&IT) sectors. Students of this course will get an opportunity to study the fundamentals of computing, programming, database systems, networking and many other fields of computing. Importantly students will also be given a thorough introduction to organizational aspects of IS&IT including project management, professional and legal issues, and IT management.

Learning Outcomes:

What will I Study?

Graduates of the programme will have the necessary breadth of understanding of the fields of information systems and information technology, as defined by international bodies such as the Association for Computing Machinery (ACM) and the Institute of Electrical and Electronics Engineers (IEEE). This will incorporate a deep understanding of the role and obligations of professionals, with regard to ethics, legal requirements and other professional issues. Students on the programme will acquire technical knowledge and skills in software development, information system design, computer networking, database design and implementation, internet development and operating systems as well as having a firm base in the mathematical fundamentals of computing. The two main themes to the programme, information systems and information technology, have capstone modules at the final stage, which each draw on the student's learning through the first three stages of the programme, and lead to their being able to demonstrate a deep understanding of both areas.

Is this Programme for me?

The BSc in Information Systems and Information Technology (DT255) has been designed for the specific needs of Mature and Non-Standard students. The programme makes use of innovative teaching methods such as video lectures, online tutorials and virtual labs as well as well classical methods such as group based work in physical computer laboratories in DIT.

Further Information

www.dit.ie/computing

School of Computing

01 402 4696 (Edina Hatunic-Webster, Programme Chair)
edina.hatunicwebster@dit.ie
dt255-info@dit.ie

COURSE CODE: **DT255**

COURSE LENGTH: 4 YEARS

APPROX: 25 PLACES

LOCATION: KEVIN ST

POINTS 2017 LEAVING CERT 3 YEARS PRIOR

Module Listing

Year One

All modules in years 1 and 2 are core for all students.
Information Systems in Organisations ● Computer Technology ● Programming & Algorithms ● Interface Design & Web Development ● Computing Fundamentals

Year Two

Object Oriented Programming ● Computer Technology ● Computing Fundamentals ● Computer Communications & Networking ● Database Systems ● Programming Paradigms & Data Structures

Year Three

Core Modules: Software Engineering ● Professional & Legal Issues ● IT Management Option Modules: Advanced Database Systems ● Advanced Computer Networking ● Internet Application Development ● Work Placement ● Civil Engagement
Semester 2
Students intending to progress to year 4 of the programme must undertake one of options 1-4 below.
Only those students who undertake option 5 can exit with BSc (Ordinary) Information Systems & Information Technology.

Year Four

Core Modules: Information Systems Research Practice ● Distributed Systems & Systems Integration ● Information Systems Engineering ● Honours Degree Project Module Option Modules - choose four: Geographic Information Systems ● Security & Cryptography
● Bioinformatics ● Business Systems Intelligence ● Artificial Intelligence ● Spatial Databases ● Information Security Services

Note: Options available change from year to year based on changes in the curriculum, lecturer availability, and student preferences.

1. **Work Placement:** Student placement in industry for 6 to 7 months
2. **International Experience:** Erasmus programme or similar exchange with an international partner
3. **Specialist Modules:** Students undertake three modules in specialist subject areas.
4. **Specialist Modules & Individual Project:** Students undertake an individual project and two modules in specialist subject areas.
5. **Service-Learning & Civic Engagement:** Students undertake a project with a community partner for 6 months

What are my... Career Opportunities?

Students on this course have strong career opportunities as IT practitioners who can deploy their skills across a range of different industries. Graduates of this course will be in a position to apply for entry level positions such as Software Engineer, Network Administrator, Information Scientist, Web Developer and many more.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates of this course who have achieved an honours degree may apply for entry to Masters programmes in Computing and other related disciplines. Example Masters programmes include Data Analytics, Security, Advanced Software Development.

Graduates of this course who have achieved an honours degree may also apply for admission to PhD programmes in Computing both within DIT and elsewhere.

Students may exit with a Higher Certificate after successfully completing the second year or exiting with a BSc (Ord) in Information Systems and Information Technology on successful completion of the third Year of the full-time pathway if they have taken an individual project.

Are there study abroad options?

DIT has been an active participant in the Erasmus programme since its inception. This programme allows DIT students to study or work for between 3 and 12 months in another EU state (or in Iceland, Lichtenstein, Norway or Turkey).

You might also be INTERESTED IN:

- Computer Science - DT228 **Pg 206**
- Computer Science (International) - DT282 **Pg 210**
- Computer Science (Infrastructure) - DT211 **Pg 208**
- Networking Applications & Services - DT080B **Pg 152**
- Networking Technologies - DT080 **Pg 190**
- Business Computing - DT354 **Pg 100**

EOLAÍOCHTAÍ MATAMAITICIÚLA
MATHEMATICAL SCIENCES

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	*Or Applied Mathematics
6	2H5's	*02/H6	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Mathematical Sciences?

Mathematical Sciences is a broad title that encompasses most areas of mathematics and statistics. Graduates have high-calibre analytical and problem-solving skills and are therefore extremely flexible and able to apply a broad range of mathematical techniques and rigour to countless applications and industries.

Learning Outcomes:

What will I Study?

The programme provides graduates with scientific and analytical skills in mathematics as well as an ability to solve problems found in real-life. The first two years of the programme are designed to provide a sound foundation in mathematics, which will underpin subsequent work, and to introduce students to topics in statistics and computer science which can be developed further in later stages through specialised modules.

A strength of the programme is that the third and fourth years are designed in a modular fashion which allows the student to tailor their studies and provides a choice of topics from courses in pure and applied mathematics, statistics, operations research and financial mathematics. The programme includes a six month placement in year three, during which students gain experience of using their analytical, modelling and problem-solving and computer skills in a working environment.

What our Students say!

- ..the course strikes the perfect balance between pure mathematics and more practical aspects such as financial maths and statistics and computer orientated modules.

Further Information

www.dit.ie/maths

School of Mathematical Sciences

01 402 4842 (Maev Maguire)
maev.maguire@dit.ie

COURSE CODE: **DT205**

COURSE LENGTH: 4 YEARS

APPROX: 30 PLACES

LOCATION: KEVIN ST

POINTS 2017 **298**

Module Listing

Year One

Foundation Mathematics ● Calculus ● Discrete Mathematics ● Linear Algebra ● Statistics ● Algorithms ● Introduction to Scientific Python ● Introduction to Mechanics with Python ● Professional Development ● Mathematics Modelling ● Mathematics Laboratory

Year Two

Geometry ● Calculus ● Real Analysis ● Practical Computing for Mathematics ● Linear Algebra ● Discrete Mathematics ● Operations Research ● Statistics ● Numerical Methods ● Operating Systems ● Professional Development ● Mathematics Modelling

Year Three

Numerical Analysis & Applications ● Ordinary Differential Equations ● Statistics ● Mathematics Practical ● Six-month Work Placement

Plus three specialist optional modules chosen from a selection of topics in pure & applied mathematics, statistics, operations research & financial mathematics.

Year Four

Partial Differential Equations ● Project - a supervised, in-depth study of a pertinent, interesting problem in mathematics

Plus specialist optional modules (four to be chosen per semester) from a selection of topics in pure & applied mathematics, statistics, operations research & financial mathematics.

What are my... Career Opportunities?

Qualified mathematicians enjoy a very wide range of careers and are much sought after.

A mathematics degree opens up a world of opportunities and will keep pace with whichever employment areas are currently thriving. Graduates of this programme will have highly-developed analytical, technical, modelling and problem-solving skills and be in an ideal position to embark on high achieving careers in industry, commerce, the teaching and other professions and the public sector. Many graduates enter the IT and Financial Services sectors.

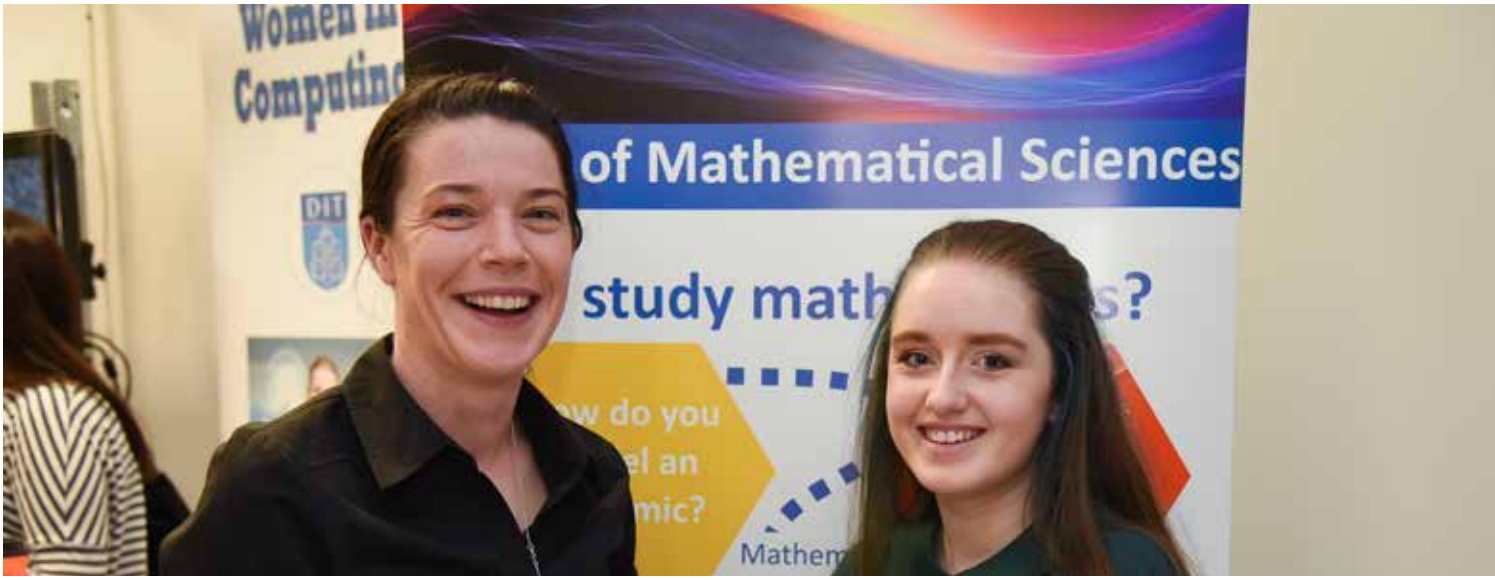
*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to a wide range of masters degrees in DIT and elsewhere in Higher Education.

Are there study abroad options?

There is an option in some semesters of the programme to study in other European institutions via Erasmus.



You might also be INTERESTED IN:

- Industrial Mathematics - DT220 **Pg 222**

NÚTRAICEODAIGH I SLÁINTE & COTHÚ
NUTRACEUTICALS IN HEALTH & NUTRITION

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2H5's	04/H7	06/H7	At least 04/H7 in one of: Physics, Chemistry, Physics & Chemistry or Biology

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Nutraceuticals in Health & Nutrition?

Nutraceuticals are concentrated compounds obtained from food sources which can provide health benefits including prevention of disease and health promotion. Examples of nutraceuticals include substances such as Omega 3, antioxidants or probiotics. In today's competitive food industry, and with increased consumer awareness of the link between diet and health, nutraceuticals are a dynamic and growing market sector.

Learning Outcomes:

What will I Study?

This programme covers a range of scientific disciplines and new nutraceutical technologies and aims to produce contemporary food scientists capable of exploiting this growing opportunity in health and wellness. An additional feature of this programme is its coverage of the emerging area of sports nutrition and nutrigenomics. Students on the programme will also undertake a three month work placement in a relevant area and a full semester in year 4 is dedicated to an independent research project which allows students to develop their research skills and develop an in-depth knowledge in an area of their choice.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

What our Students say!

- Niamh Máire Mohan (2015) - The DT420 programme is unique in its diversity. This course and its supportive lecturing staff have helped me build my distinctive skills and knowledge base through practical laboratory work, problem based learning tasks and interactive E - learning lectures.

  There is a heavy focus on current advances and future directions of research which fit with the developing nature of the science. I got to study in Lund University Sweden and this invaluable experience broadened my academic perspective and amplified my enthusiasm as I gained a sense of the overall potential of functional foods. I then continued to carry out my final year project in Polytechnic University Valencia (Spain) where I furthered my understanding of how the science is developing globally.

  I was awarded a scholarship by the Irish Research Council to carry out an Employment based PhD in conjunction with Trinity College Dublin and Nuritas Limited, a young Biotechnology company. This exciting project is based on using a combination of artificial intelligence and data mining to find novel antimicrobial peptides from sustainable food sources. The potential application of these bioactives spans from the food protection industry to the medical sector as alternative antimicrobial therapies.

  DT420 prepares students who want to follow a further academic or an industrial career. Through this style of PhD, I am doing both, and feel that this degree helped shape my understanding of both worlds so that research is not just confined to the lab, it can be applied to the real world.

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 7570 (Prof Nissreen Abu-Ghannam)
nissreen.abughannam@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT420	4 YEARS	32 PLACES	CATHAL BRUGHA ST	411

Module Listing

Year One

Principles of Cellular & Systems Biology ● Fundamentals of Inorganic, Organic & Physical Chemistry ● Digital skills & Computer Applications ● Mathematics for Scientists ● Physics for Sciences & Health ● Principles of Food Processing & Preservation ● Introductory Nutrition & Microbiology ● Communications & Nutraceutical Industry Studies

Year Two

Structural & Transformational Biochemistry ● Natural Organic Chemistry ● Food & Pharmaceutical Instrumentation ● Food Process Technology ● Food Engineering ● Food Ingredients & Regulatory Affairs ● Diet, Health and Disease ● Statistics ● Food Microbiology

Year Three

Food Chemistry & Food Chemical Analysis ● Principles of Pharmacology & Toxicology ● Biotechnology ● Food Shelf-Life Management & Packaging ● Innovation & Entrepreneurship ● Nutraceutical Microbiology ● Medicinal Chemistry for Nutraceuticals ● Nutraceutical Product Development ● Nutraceutical Food Quality & Occupational Safety ● Sports Nutrition ● Industrial placement

Year Four

Functional Food Products & Processing Aspects ● Lifecycle Nutrition ● Nutrigenomics & Nutrigenetics ● Industrial Biotechnology for Nutraceuticals ● Sports Ergogenic Aids ● A Choice of an Optional Module

What are my... Career Opportunities?

Graduates will be qualified to enter a rewarding career in this innovative industry, participating in and leading the development and production of high quality functional foods and new nutraceutical products for the food industry. Graduates of this programme find employment in a variety of roles including nutraceutical technologist, food product development specialist and quality control and regulatory roles.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates will also be qualified to enter postgraduate research programmes, both in Ireland and abroad, in nutraceutical research and related areas at masters or PhD level. Demand for researchers in this area is currently high and is predicted to further increase in future years.

Are there study abroad options?

Students may have the opportunity to complete a semester, full year, project work or work placement abroad under the Lifelong Long Learning Programme (LLP)/Erasmus mobility schemes or their equivalent in other countries, subject to a bilateral agreement between DIT and the host institution.

You might also be INTERESTED IN:

- Food Innovation - DT421 **Pg 216**
- Pharmaceutical Healthcare - DT422 **Pg 232**
- Food Science & Management - DT424 **Pg 256**
- Public Health Nutrition - DT225 **Pg 240**

OPTAIMÉADRACHT
OPTOMETRY

BSc Leibhéal 8 /Level 8

ALL STUDENTS WILL BE VETTED BY AN GARDA SÍOCHÁNA.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2H5's	03/H7	06/H7	At least H4 in one of: Physics, Chemistry, Physics and Chemistry or Biology

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Optometry?

Optometrists (Ophthalmic Opticians) are health care professionals who provide primary eye care services. They carry out eye examinations to diagnosis vision defects including myopia (shortsight), hyperopia (longsight), astigmatism and presbyopia and prescribe spectacles. The optometrist's eye examination will detect eye diseases such as cataract, glaucoma and age related macular degeneration. Optometrists are also able to detect ocular signs of systemic conditions such as multiple sclerosis, high blood pressure and diabetes. Patients are referred to doctors by optometrists if medical attention is required. Optometrists in Ireland do not treat eye disease - this is done by the medical profession.

Learning Outcomes:

What will I Study?

The first year of the Optometry course focuses on the relevant science subjects necessary for optometric training. Clinical teaching commences in year 1 with Vision Science, which aims to equip the student with some of the core clinical skills necessary for the routine eye examination. The clinical training increases throughout the course.

In the third and fourth year of the programme students are taught how to apply their scientific knowledge in a modern, purpose built clinic, the National Optometry Centre (N.O.C.), based at the DIT Kevin Street, with state of the art facilities and equipment. Students learn to:

- Perform an eye examination to determine if spectacles are required
- Choose suitable spectacle frames and lenses based on a detailed knowledge of a wide-range of optical appliances
- Fit contact lenses
- Identify eye related disease so that a patient may be appropriately managed and referred if necessary
- Carry out specialised clinics in: Low Vision, Aged Vision, Paediatrics, Binocular Vision
- Use specialised ophthalmic diagnostic and imaging instrumentation

Students at the end of the 4th year spend a period of 5 months (January - May) working in an Optometric practice under supervision (Students are responsible for their own upkeep during this period). This is designed to give the student workplace experience and skills and to provide them with future employment prospects.

Further Information

www.dit.ie/physics

School of Physics and Clinical & Optometric Sciences

01 402 4785 (Dr Veronica O'Dwyer)
01 402 4915
veronica.odwyer@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT224	4 YEARS	25 PLACES	KEVIN ST	477

Module Listing

Year One

Vision Science ● Ophthalmic Optics & Dispensing ● Geometrical Optics ● Physical Optics ● Physics for Health Science ● Cell Biology ● Histology, Anatomy & Physiology ● Anatomy and Physiology of the eye ● Chemistry ● Mathematics

Year Two

Clinical Optometry ● Optical Dispensing ● Binocular Vision ● Contact Lens Practice ● Ocular Biochemistry ● Medical Physiology ● Physiology of Vision ● Experimental Statistics ● Introduction to Diseases of the Eye and Pharmacology

Year Three

Primary Care Clinic ● Advanced Clinical Techniques● Contact Lens Practice ● Binocular Vision ● Diseases of the Eye ● Ocular & General Pharmacology ● Physiology of Vision ● Intercultural Communications for Eyecare practitioners & Professional Studies

Year Four

Primary Care Clinic ● Contact Lens Clinic ● Environmental Optometry ● Paediatric Optometry ● Vision Rehabilitation ● Optometric Practice Management ● Topics in Modern Optometry ● Project ● Supervised Practice

What our Students say!

- "I chose Optometry as I was interested in science, wanted to work with people and make a difference, in their lives. DIT was a great place to study; the class sizes are small so it was a friendly, close knit community. Lecturers are available to answer any questions, and the National Optometry Centre has amazing facilities for practical work. Through DIT I was introduced to working in sustainable development in vision care. I spent some time in Mozambique, and then lectured for a year with the Malawi School of Optometry. Both were amazing opportunities. Now I work in private practice in the family business while pursuing a Masters in Clinical Optometry."

What are my... Career Opportunities?

After graduation you are eligible to take the Professional Qualifying Examinations of the Association of Optometrists, Ireland. The BSc Optometry and success in these Professional Qualifying Examinations are academic and professional requirements for registration with CORU (the Health and Social Care Professionals Council). Most newly qualified Optometrists work in established practices in Ireland or the UK. Registration in the UK is possible once you are registered in Ireland.

*For more career development options please see inside front cover

What other options do I have after completion?

- Some graduates chose to start their own optometric practices
- Opportunities also exist to undertake industrial research and to work in hospitals (usually abroad)
- Graduates have pursued higher research degrees (Masters and Doctoral degrees) through DIT

The U.S.A. and Canada do not accept Irish (or British) qualifications. North American Optometrists treat eye disease and further study is therefore required.

Are there study abroad options?

Graduates have been accepted in UK universities to pursue Postgraduate Degrees. Further study in the USA and Canada can be undertaken to attain registration in those jurisdictions.

STUDENTS WILL BE REQUIRED TO UNDERGO GARDA VETTING. STUDENTS MUST COMPLETE THE REQUIRED DOCUMENTATION, INCLUDING A FULL LIST OF ALL PREVIOUS ADDRESSES, IN ORDER FOR CLEARANCE CHECKS TO BE MADE. CURRENTLY IRISH ADDRESSES ARE VETTED BY THE GARDA VETTING BUREAU AT NO COST TO THE STUDENT.

You might also be INTERESTED IN:

- Ophthalmic Dispensing - DT219 **Pg 252**

CÚRAM SLÁINTE CÓGAISÍOCHTA
PHARMACEUTICAL HEALTHCARE

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2H5's	04/H7	06/H7	At least 04/H7 in one of: Physics, Chemistry, Physics and Chemistry or Biology

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Pharmaceutical Healthcare?

The Pharmaceutical Healthcare programme provides students with an integrated Programme of practice and theory focussing on the key concepts in pharmaceutical sciences and technology.

The Programme develops students' knowledge of the fundamental principles, as well as latest developments and applications, equipping them for employment in a variety of areas within biopharmaceutical and pharmaceutical manufacturing, as well as associated industries.

The Programme also gives students a broad understanding of the biopharmaceutical and pharmaceutical industries, in order to meet the current and anticipated technical and skills needs of these industries.

What our Students say!

- "DIT's BSc Pharmaceutical Healthcare Degree provides students with a diverse and thorough background into the Pharmaceutica Industry. It incorporates a wide range of topics which provide excellent training in scientific principles, self-discipline, practical applications, organisational and computing skills.

  I fulfilled my placement in the Immunology Department within the Central Pathology Laboratories, St. James' Hospital, during which I easily transferred theoretical knowledge into practical uses. I am currently working as a QC Analyst performing analysis on Oral Solid Dosage Formulations. I now have the option of branching out into multiple fields within the Pharmaceutical Sector as well as Biopharmaceutics"

Learning Outcomes:

What will I Study?

You will primarily learn about how the fundamental sciences are applied to biopharmaceutical and pharmaceutical manufacturing. Throughout the Programme there is a strong focus on the core competencies and skills that will prepare you for the work environment in the biopharmaceutical, pharmaceutical and allied industries, both during the Programme as part of your work experience and also after you graduate.

The Programme has two discipline streams in Year 4 which underpin core modules in the area of (bio) pharmaceutical manufacturing. These two streams will allow you to specialise into either small molecule pharmaceuticals or biopharmaceuticals. The Programme is structured over four years and covers a comprehensive range of disciplines including scientific, technological, manufacturing, developmental and regulatory areas related to the biopharmaceutical and pharmaceutical industries. The Programme includes the options of extended external placement or international placement and this will give you the opportunity to develop independence, confidence and build upon your disciplinary expertise and knowledge you have gained.

Finding employment in an industrial/research environment post-graduation will be aided by developing your key personal and interpersonal employability skills throughout the Programme. The provision of challenging self-directed learning exercises, cumulating in a final year research project, will enable you to become a graduate that is self-reliant, problem-solving, innovative and self- motivating.

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 4379 (Dr. Barry Ryan)

barry.ryan@dit.ie

COURSE CODE: **DT422**

COURSE LENGTH: 4 YEARS

APPROX: 32 PLACES

LOCATION: CATHAL BRUGHA ST

POINTS 2017 **384**

Module Listing

Year One

Principles of Cellular & Principles of Systems Biology ● Fundamentals of Inorganic/Organic/Physical Chemistry ● Introductory Physics ● Mathematics for Scientists ● Computer Applications & Digital Skills ● Basic Microbiology ● Introduction to Manufacturing & Introduction to Biopharmaceuticals

Year Two

Structural Biochemistry & Transformational Biochemistry ● Natural Chemistry & Organic Chemistry ● Statistics ● Instrumentation for (Bio) Pharmaceuticals ● Pharmaceutical Microbiology ● Process Technology ● Regulatory Affairs ● Quality Systems

Year Three

Biotechnology ● Principles of Pharmacology & Toxicology ● Pharmaceutical Formulation ● Pharmaceutical Microbiology ● Chemical Technology ● Work Placement

Year Four

Core: Research Dissertation ● Responsible Research ● Lean Manufacturing & Six Sigma ● Design of Experiments & Multivariate Analysis ● Process Analytical Technology ● Optional Module

Pharmaceutical Manufacture Stream: Medicinal Chemistry ● Drug Discovery & Synthesis ● Advanced Analytical Techniques

Biopharmaceutical Manufacture Stream: Advanced Biotechnology ● Bioprocessing ● Immunology & Diagnostics

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9AM-2PM 01.12-02.12

What are my... Career Opportunities?

Upon completion of the Programme you will be equipped with the skills to work in a variety of roles within the science and technology industries. The variety of roles our graduates are employed in include; quality control/assurance, product manufacture and development, sales and clinical trials.

Employers of our graduates include; Mylan, Novartis, Pfizer, Servier and Valient. Graduates have also entered Graduate Development Programmes in large multinational companies such as Abbot, where there are ongoing and expanding opportunities in the coming years in Ireland and internationally.

*For more career development options please see inside front cover

What other options do I have after completion?

You may also consider further studies after you graduate. Due to the research focus of the Programme, many of our graduates have pursued Postgraduate Masters Degrees (taught and research) and PhD's in DIT, TCD, UCD, DCU and overseas. Alternatively, graduates may also consider a teaching career once a suitable postgraduate teaching qualification has been completed.

Are there study abroad options?

You have the opportunity to both study and work abroad within the Programme. You can choose to complete a semester, a full year, project work or work placement abroad under the Lifelong Learning Programme (LLP)/ERASMUS mobility schemes.

Studying, or work placement, abroad is permitted subject to an approved selection procedure and where an agreement exists between DIT and the proposed host institution.

You might also be INTERESTED IN:

- Nutraceuticals in Health & Nutrition - DT420 **Pg 228**
- Medicinal Chemistry & Pharmaceutical Science - DT261 **Pg 250**
- Food Science & Management - DT424 **Pg 256**
- Food Innovation - DT421 **Pg 216**
- Pharmacy Technician Studies - DT425 **Pg 258**
- Science (General Entry) - DT201 **Pg 242**

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PHYSICS TECHNOLOGY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

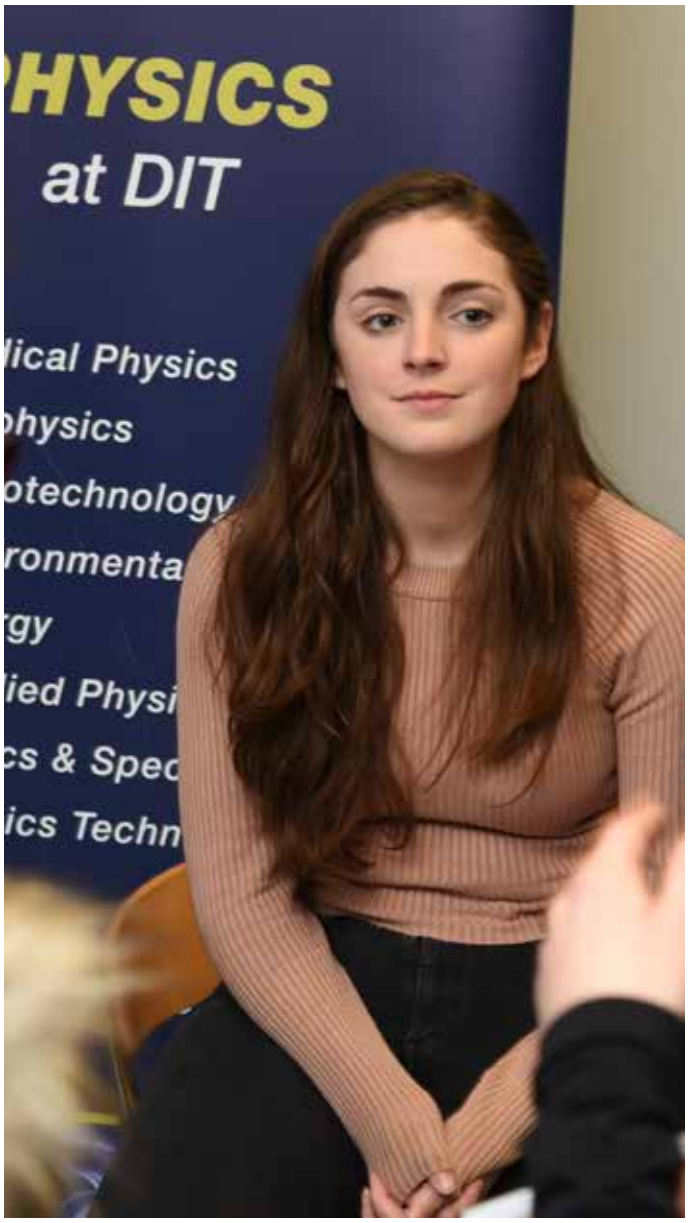
Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology, Mathematics, Applied Mathematics, Technical Drawing or Design and Communication Graphics.
6	2H5's	03/H7	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:	FIVE DISTINCTIONS WHICH MUST INCLUDE
CASLT/5M3807 Laboratory Techniques	C20139/5N1833 Mathematics, OR Leaving Certificate Mathematics 03/H7

What is...Physics Technology?

If you are interested in why things happen in the physical world, then Physics Technology may be for you. It underpins most modern technologies and holds a key to improving all of our futures. Physicists design experiments to test or apply new ideas in order to better understand the physical world. For instance, it is the work of physicists which has led to key developments in areas such as optics, electronics, communications systems, information technology, computing, medical technologies, energy production and management, sustainable technologies and environmental technologies.



Learning Outcomes:

What will I Study?

This programme is designed to educate and train professional scientists in the area of Physics Technology. The course is a four year, full time honours degree programme and aims to provide graduates with scientific and analytical skills in physics as well as a practical problem solving ability.

It is not necessary to have studied physics in order to do this degree, although you do need to have an interest in science and technology. All of the Physics in year 1 and much of it in year 2 is delivered using the exciting method of Problem Based Learning. This learning style allows students to develop additional skills much sought after by industry: problem solving, adaptability, teamwork, research skills, leadership and communication skills.

Physics Technology is an accredited programme of the Institute of Physics (IOP).

Further Information

www.dit.ie/physics

School of Physics

01 402 4927
siobhan.daly@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT222	4 YEARS	15 PLACES	KEVIN ST	338

Module Listing

Year One

Physics ● Physics of Motion ● Waves; seeing them (optics) & hearing them (sound) ● Heat & Thermal Physics ● Electricity & Magnetism ● Modern & Nuclear Physics ● Properties of Materials ● Applied Physics ● Chemistry ● Mathematics ● IT & Computing ● Science Technology & Society

Year Two

Physics ● Optics & Electromagnetism ● Mechanics ● Relativity ● Heat & Thermodynamics ● Electronics & Semiconductors ● Quantum Mechanics ● Condensed Matter & Nuclear Physics ● Vibrations & Waves Renewable Energy ● Technology for Sustainability ● Applied Physics ● Astronomy ● Energy & Environmental Physics ● Mathematics ● IT & Computing ● Entrepreneurship for Scientists

Year Three

Optics ● Electromagnetism & Lasers ● Condensed Matter ● Electronics ● Ionising & Non Ionising Radiation ● Quantum Mechanics ● Physics of Materials ● Thermal Physics ● Computation ● Environmental & Remote Sensing ● Vacuum Techniques for Nanotechnology ● Project

Year Four

Electronics & Instrumentation ● Lasers & Optical Communications ● Radiation & Nuclear Physics ● Particle Physics & Astrophysics ● Electromagnetism & Statistical Physics ● Quantum Physics of Solids ● Computational Physics ● Invention, Innovation & Commercialisation Project

Optional Modules: Physics of Fluids & Acoustics ● Applied Optical Spectroscopy & Advanced Optics ● Physics of Materials ● Diagnostic Imaging ● Semiconductor & Molecular Nanostructures & Devices ● Advanced Techniques for Computational Physics

What are my... Career Opportunities?

Physics graduates are employed in a diverse range of areas including environmental monitoring, medical physics, lasers and opto-electronics, equipment design, telecommunications, aerospace, research, project management, finance, education, technical writing, meterology, materials science, geophysics, radiation protection, solar physics and many more.

*For more career development options please see inside front cover

What other options do I have after completion?

Suitably qualified graduates will have access to a range of Masters Programmes in DIT and elsewhere in Higher Education. Opportunities also exist for graduates to pursue Master's and Doctorate studies by research.

What our Students say!

- ....having fun learning
- ....learning from each other
- ....it is more effective and enables you to remember better
- ....the real-life problems are more interesting and challenging

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9AM-2PM 01.12-02.12

You might also be INTERESTED IN:

- Physics with Energy & Environment - DT221 **Pg 236**
- Physics with Medical Physics & Bioengineering - DT235 **Pg 238**
- Industrial & Environmental Physics - DT260 **Pg 248**

FISIC LE FUINNEAMH & COMHSHAOL
PHYSICS WITH ENERGY & ENVIRONMENT

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology, Mathematics, Applied Mathematics, Technical Drawing or Design and Communication Graphics.
6	2H5's	03/H7	06/H7	

What is...Physics with Energy & Environment?

Increasingly, many aspects of our economy and of our lifestyles depend on our ability to manage our energy needs and our environment appropriately. Many challenges exist including energy production, management and distribution, sustainability, environmental monitoring and measurement and the technologies associated with all these sectors. Physics plays a crucial role in all of these areas. Physicists develop new innovative technologies for these and areas such as renewable energy, atmospheric monitoring, the green economy and many more. The importance of the energy and the environmental sectors and the roles of physics graduates within these are internationally recognised.

QQI LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:	FIVE DISTINCTIONS WHICH MUST INCLUDE
CASLT/5M3807 Laboratory Techniques	C20139/5N1833 Mathematics, OR Leaving Certificate Mathematics 03/H7

Learning Outcomes:

What will I Study?

If you are interested in the applications of physics to the key areas of Energy and Environment and are interested in pursuing an engaging career in these areas, you will need an aptitude for science and a keen interest in physics.

The first year of this programme provides a strong foundation across all of the relevant science subjects and in mathematics. This prepares students for the applied nature of the physics modules which are developed through to the final year and for the specialist Energy and Environment modules studied. In second year, the relevant core modules in physics, mathematics and computing are taught together with some specialised material in the Energy and Environmental areas. These areas are further developed in stages three and four. All students participate in an industrial work placement of approximately 6 months in stage 3.

Additionally, there is a strong emphasis throughout the programme on problem solving skills, professional skills, computing and ICT skills. Problem Based Learning is used in stages 1 and 2 and this allows students to become good problem solvers and to develop a range of key skills much sought after by industry and in research settings. There is a significant emphasis on laboratory practice and skills. These aspects of the programme, together with work placement and modules that emphasise the practical nature of the programme prepare graduates for employment in the relevant sectors or for graduate study either here in Ireland or abroad.

Further Information

www.dit.ie/physics

School of Physics

01 402 4953 (Dr John Doran)
john.doran@dit.ie

COURSE CODE: **DT221**

COURSE LENGTH: 4 YEARS

APPROX: 15 PLACES

LOCATION: KEVIN ST

POINTS 2017 **330**

Module Listing

Year One

Physics: Problem Based Learning ● Physics of Motion & Waves ● Physics of Heat ● Electricity & Magnetism ● Modern & Nuclear Physics ● Properties of Materials ● Astronomy, Energy & Environmental Physics).

Chemistry: General & Organic ● Inorganic & Physical ● Classical Techniques ● Mathematics Computational Studies Science ● Technology & Society

Year Two

Physics: Problem Based Learning & Lectures ● Optics & Electromagnetism ● Mechanics ● Relativity ● Heat & Thermodynamics ● Electronics & Semiconductors ● Quantum Mechanics ● Condensed Matter & Nuclear Physics ● Vibrations & Waves ● Renewable Energy ● Technology for Sustainability ● Environmental Physics ● Atmospheric Physics ● Mathematics IT & Computing Entrepreneurial Studies for Scientists

Year Three

Optics, Electromagnetism & Lasers ● Condensed Matter ● Electronics ● Ionising & Non Ionising Radiation ● Quantum Physics ● Alternative Energy Systems ● Industrial Work Placement

Year Four

Thermal Physics ● Electronics & Instrumentation ● Quantum Physics of Solids ● Nuclear & Particle Physics & Astrophysics ● Electromagnetism & Statistical Physics ● Advanced Topics in Energy & Environmental Physics ● Energy Policy & Economics ● Environmental Measurement ● Invention

What are my... Career Opportunities?

Graduates will find employment in a diverse range of areas including energy production, management and distribution, also in developing sustainable solutions to energy and environmental challenges, in the development of technologies for renewable energy production and energy storage and in environmental monitoring both within structures and in the open. Graduates will contribute to the continued development of the Green Economy across all of these sectors and be key to the development of new and emerging technologies.

*For more career development options please see inside front cover

What other options do I have after completion?

Suitably qualified graduates of this programme are eligible to progress to taught and research masters and doctoral programmes in DIT and in other Higher Education Institutions in Ireland and abroad.

Are there study abroad options?

Some opportunities of securing experience abroad are possible during the work placement period of stage three.

You might also be INTERESTED IN:

- Physics Technology - DT222 **Pg 234**
- Physics with Medical Physics & Bioengineering - DT235 **Pg 238**
- Industrial & Environmental Physics - DT260 **Pg 248**

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PHYSICS WITH MEDICAL PHYSICS & BIOENGINEERING

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology, Mathematics, Applied Mathematics, Technical Drawing or Design and Communication Graphics.
6	2H5's	03/H7	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:	FIVE DISTINCTIONS WHICH MUST INCLUDE
CASLT/5M3807 Laboratory Techniques	C20139/5N1833 Mathematics, OR Leaving Certificate Mathematics 03/H7

What is...Physics with Medical Physics & Bioengineering?

This is a Physics degree which has been developed in partnership with both the Medical Device Industry and the Medical Physics and Bioengineering community in Ireland and is accredited by the Institute of Physics. Many important aspects of medical diagnostics, technology and treatment are underpinned by physics. Think of x-rays, ultrasound, magnetic resonance imaging, CT scans and treatment of tumours with radiation. Physics is crucial to all of these. Medical physicists and bioengineers play a vital and often leading role on the medical research team in terms of the development or application of new medical technology in a hospital or industry environment.

Learning Outcomes:

What will I Study?

This Physics degree is in the area in one of the country's most vibrant technological sectors, highly practical and has been developed in partnership with both the Medical Device Industry and the Medical Physics and Bioengineering community in Ireland.

A range of specialist modules are delivered by experts in the areas of Medical Devices, Bioengineering and Rehabilitation Engineering, Medical Imaging and Radiotherapy to ensure a strong focus and relevance to the programme. In the module "Physics of Medical Devices" you will gain an insight into the Medical Device Industry from the initial concept of a medical device to the manufacture of the device. In the module Diagnostic Imaging, the learner will gain an understanding of the principles of how an image is formed using x-rays or sound waves and be able to critically assess the important design features in such imaging devices for optimum image quality. In the "Bioengineering" module you will learn about the design and engineering of artificial limbs and implants as well as advanced biocompatible materials.

Furthermore, there is a seven month Work Placement as part of year 3 in either a Medical Physics & Bioengineering department in a hospital, research laboratory or in a Medical Device industry. This work placement will give you day-to-day experience as a physicist in Medical Physics and Bioengineering as well as helping you to develop important links for your future career.

Further Information

www.dit.ie/physics

School of Physics and Clinical & Optometric Sciences

01 402 4927 (Dr Siobhan Daly)
siobhan.daly@dit.ie

COURSE CODE: **DT235**

COURSE LENGTH: 4 YEARS

APPROX: 15 PLACES

LOCATION: KEVIN ST

POINTS 2017 **368**

Module Listing

Concentration on a single subject is not enough for any scientist, especially in as wide-ranging a subject area as this. This degree programme also covers relevant Biology, Engineering, Problem Solving Skills, Computer Studies, Chemistry, Maths (in Years 1 and 2) and Professional Skills.

Year One

Physics (with Medical Physics flavour) ● Biology ● Microbiology & Medical Device Decontamination ● Mathematics ● Chemistry ● Computational Studies ● Science ● Technology & Society Studies

Year Two

Physics ● Biology ● Mathematics ● Medical Devices & Feedback Control ● Computational Studies ● Entrepreneurial Studies

Year Three

Physics ● Medical Physics & Bioengineering ● Rehabilitation Engineering & Tissue Engineering ● Biomaterials ● Implants & Biosensors ● Industrial Work Placement.

Year Four

Physics ● Medical Physics & Bioengineering ● Diagnostic Imaging ● General Radiotherapy ● Bioelectromagnetism ● Invention ● Innovation & Commercialisation ● Studies & Research Project

What our Students say!

- Antonia Bryan (Graduated 2012), employed as a Medical Physicist in Hull and East Yorkshire Hospitals Trust since September 2012.- "Having studied at different universities I was pleasantly surprised by the fresh teaching methods used at DIT. The problem based learning environment and practical lab work that I experienced while studying in the School of Physics at DIT was the best foundation for the kinds of problems I face every day as a medical physicist. The small class size meant we made life-long friends and our lecturers knew us all personally. I wouldn't have the experience I do now if it wasn't for their encouragement and mentoring."

What are my... Career Opportunities?

A wide range of careers exist for physics graduates, many of them using the methodology of physics: technical know-how, the logical approach, problem solving skills. Physic graduates work in well-paid physics-based industries such as the critical and growing areas of medical physics, bioengineering and medical devices and also the electronics industry, alternative energy development and telecommunications. Their analytical skills also place physicists in demand in a range of financial, fund management and research roles, in the law, in management consultancy, as weather forecasters, computer programmers and as physics and science teachers. Typical career opportunities of past graduates are in such hospitals and companies as;

- Mater Misericordiae University Hospital
- University Hospital Galway
- The University of Dundee, Scotland
- The NHS Greater Glasgow & Clyde
- Fisher & Paykel Healthcare
- Boston Scientific
- Hermitage Medical Clinic
- bitSmith Games
- St. James's Hospital
- Medtronic Vascular
- Hull & East Yorkshire Hospitals NHS Trust

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to a wide range of taught Masters degrees or MPhil or PhD research degrees in DIT and elsewhere in Higher Education including opportunities in taught Masters degrees of MPhil or PhD reasearch degrees in medical physics.

Are there study abroad options?

Six to twelve months (subject to scrutiny of modules by Programme Committee) to be taken abroad.

You might also be INTERESTED IN:

- Physics Technology - DT222 **Pg 234**
- Physics with Energy & Environment - DT221 **Pg 236**
- Industrial & Environmental Physics - DT260 **Pg 248**

COTHÚ SLÁINTE POIBLÍ
PUBLIC HEALTH NUTRITION

BSc Leibhéal 8 / Level 8

All students will be vetted by An Garda Síochána.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least H4 in one of: Physics, Chemistry, Physics and Chemistry or Biology
6	3H5's	04/H7	06/H7	

What is... Public Health Nutrition?

Public Health Nutrition involves the promotion of good health through nutrition and the primary prevention of nutrition related illness in the population. It focuses on the application of food and nutrition knowledge, policy, and research to improving the optimum nutritional health of the whole population and high risk or vulnerable subgroups within the population. This public health nutrition degree will have an international perspective and will examine how global, national and local community programs might be designed to improve the nutritional status of the population as a whole and those at particular risk.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

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DIT AUNGIER ST.
9AM-2PM 01.12-02.12

Learning Outcomes:

What will I Study?

Nutrition is the study of nutrients in food, the role of nutrients in the body and the relationship between diet, health and disease. The study of nutrition draws on a range of subjects including the basic sciences, biochemistry, cell and molecular biology, immunology, microbiology and physiology. The programme is designed to provide an integrated training in the science of nutrition and its applications to human health and wellbeing both at the individual and community level.

Competence will be developed based on theoretical knowledge, the application of the core sciences to human nutrition, the development of scientific and analytical skills and the integration of theory and practice. To ensure a capacity for evidence-based practice, emphasis will be placed on the development of problem-solving skills, the ability to seek, review and critically evaluate and summarise scientific data and information and the ability to undertake research and development in Public Health Nutrition. These skills and competencies will be further developed/ reinforced by the inclusion of a research project (year 3) and a 36-40 week professional placement (year 4) and to ensure our graduates have real-life work experience and are fit for purpose. Strong emphasis is placed on developing additional transferable skills such as computer literacy, interpersonal and communication skills, ability to work as part of a team and adaptability.

Are there study abroad options?

Currently students in the School of Biological Sciences have an opportunity to undertake their research project in Europe as part of the ERASMUS programme. The opportunity may also be available to undertake the Professional Placement in Europe.

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 4562
biolsciences@dit.ie

COURSE CODE: **DT225**

COURSE LENGTH: 4 YEARS

APPROX: 25 PLACES

LOCATION: KEVIN ST

POINTS 2017 **403**

Module Listing

Year One

Biochemistry & Molecular Biology ● Chemistry for Human Nutrition ● Food Studies ● Nutrition Science-Macronutrients ● Nutrition through the Lifecycle ● Physiology ● Infection & Immunity ● Professional Practice, Communications & Behavioural Science ● Research Methodology & Statistics

Year Two

Biochemistry of Metabolism ● Nutrition Science-Micronutrients ● Control & Integrative Physiology ● Pathophysiology ● Public Health Microbiology ● Cell & Molecular Biology ● Clinical Chemistry ● Nutritional Epidemiology ● Professional Practice for Public Health Nutrition ● Practice Placement (4 weeks)

Year Three

Applied Nutrition ● Molecular Nutrition ● Global Food Issues ● Food Safety, Food Policy & Regulatory Affairs ● Invention, Innovation & Commercialisation ● Data Analysis & Interpretation ● Professional Development for Placement ● Research Project

Year Four

Professional Placement (36-40 weeks) ● Consolidation

What are my... Career Opportunities?

Employment opportunities exist for nutrition experts within the agri-food production and retail industries. Opportunities also exist for employment in nutrition product sales and marketing. A number of government agencies and bodies are employing expert nutritionists. The growing appreciation of the role of nutrition in public health amongst health professionals, industry, the general public, and at Government level is resulting in a growing demand for graduates in Public Health Nutrition.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who successfully complete the BSc in Public Health Nutrition will be eligible to register as Associate Nutritionists with the UK Voluntary Register of Nutritionists (UKVRN) conferred by the Association for Nutrition. After approximately three years relevant experience graduates of the Public Health Nutrition Programme are eligible to apply for Registered Nutritionist status. Students who successfully complete the BSc in Public Health Nutrition will also be eligible to undertake MPhil and PhD degrees in laboratory or community-based research.

You might also be INTERESTED IN:

- Human Nutrition & Dietetics - DT223 **Pg 220**

EOLAÍOCHT (IONTRÁIL GHINEARÁLTA)
SCIENCE (GENERAL ENTRY)

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	03/H7	06/H7

Other Requirements

At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology or Applied Mathematics.

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Science (General Entry)?

Science is the process of understanding the world around us and underpins many of the major industrial sectors and employers in Ireland, for example, Pharmaceutical, Biotechnology, Healthcare, Agri-Food and the Green Economy. A recent review of employment opportunities in Ireland by Forfás identified that Science will be at the core of the Future Skills Needs and economic recovery in Ireland. This General Science Programme is ideal if you are not yet sure which Science discipline you wish to pursue and you are looking for a broad education in first year that will allow the maximum possible choice in future years.

Learning Outcomes:

What will I Study?

- Demonstrate an understanding of fundamental scientific and mathematical principles
- Develop basic theoretical and technical skills in biology, chemistry, physics and mathematics
- Possess the capacity to analyze and interpret a range of physical, chemical and biological data
- Students will have developed their communications skills so as to effectively retrieve information, write reports and make presentations
- To begin applying the Scientific Technique in analysing and solving problems
- Have an understanding of Science and the role and responsibilities of a Scientist in society
- The students would be expected to meet minimum requirements for transfer to the second year of one of the participating level 8 programmes. The normal minimum requirement is to pass all modules taken

Further Information

see below

Primary Contact

School of Chemical & Pharmaceutical Sciences
01 402 4570 (Dr. Gavin Sewell)
gavin.sewell@dit.ie
www.dit.ie/chemistry

School of Food Science & Environmental Health
01 402 4408 (Dr. James Curtin)
james.curtin@dit.ie
www.dit.ie/fseh

School of Biological Sciences
01 402 4563 (Dr. Jan Guerin)
jan.guerin@dit.ie
www.dit.ie/biologicalsciences

School of Physics
01 402 4927 (Dr. Siobhan Daly)
siobhan.daly@dit.ie
www.dit.ie/physics

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT201	1 YEAR	30 PLACES	KEVIN ST CATHAL BRUGHA ST	462

Module Listing

Year One

Biology ● Chemistry ● Physics ● Mathematics ● Nutrition

Students are required to take an additional elective module commencing in semester two. Selection of this elective module depends on the preferred choice of programme that a student will select following successful completion of the year one examinations.

Are there study abroad options?

Individual programmes in the College of Sciences and Health have opportunities to study abroad in second and subsequent years. Please see the course entries for: DT203, DT221, DT222, DT227, DT235, DT299, DT420, DT421 and DT422.

*Please note that while every effort is made to accommodate student preferences, entry to the listed programmes may not be guaranteed. If a programme is oversubscribed, the places are allocated on the basis of academic performance in stage 1 of the programme.

What other options do I have after completion?

Students can apply to enrol into Year 2 of the following 10 participating BSc (Hons) programmes:

- DT203 BSc (Hons) Forensic & Environmental Chemistry
- DT206 BSc (Hons) Biomedical & Molecular Diagnostics ***NOTE***
- DT221 BSc (Hons) Physics with Energy & Environment
- DT222 BSc (Hons) Physics Technology
- DT227 BSc (Hons) Science with Nanotechnology
- DT235 BSc (Hons) Physics with Medical Physics & Bioengineering
- DT299 BSc (Hons) Chemical Sciences with Medicinal Chemistry
- DT420 BSc (Hons) Nutraceuticals in Health & Nutrition
- DT421 BSc (Hons) Food Innovation
- DT422 BSc (Hons) Pharmaceutical Healthcare

NOTE **There are very limited spaces available (normally 2 places)**

Students will not under any circumstances transfer into the Year 2 of:

- DT204 BSc (Hons) Biomedical Science
- DT205 BSc (Hons) Mathematical Sciences
- DT211 BSc (Hons) Computer Science (Infrastructure)
- DT220 BSc (Hons) Industrial Mathematics
- DT223 BSc (Hons) Human Nutrition & Dietetics
- DT224 BSc (Hons) Optometry
- DT225 BSc (Hons) Public Health Nutrition
- DT228 BSc (Hons) Computer Science
- DT229 BSc (Hons) Clinical Measurement Science
- DT255 BSc (Hons) Information Systems/Information Technology
- DT282 BSc (Hons) Computer Science (International)
- DT405 BSc (Hons) Culinary Science
- DT491 BSc (Hons) Environmental Health

You might also be INTERESTED IN:

- Science (General Entry) - DT212 **Pg 254**

EOLAÍOCHT LE NANAITHEICNEOLAÍOCHT
SCIENCE WITH NANOTECHNOLOGY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2H5's	03/H7	06/H7

Other Requirements

At least H4 in one of Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Engineering, Technology, Mathematics, Applied Mathematics, Technical Drawing or Design and Communication Graphics.

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Science with Nanotechnology?

Nanoscience is the study of very small-things on a nanometer scale (one thousandth millionth of a metre). This is the scale of large molecules like plastics or proteins.

Nanotechnology includes the techniques used to create structures on a scale below 100 nm, which can be used in new generations of electronics, sensors and computer chips. Many of today's global challenges in the environment and health can be addressed by nanotechnology intervention.

Nanoscience and nanotechnology are built upon chemistry and physics. This degree is a solid science degree (physics and chemistry) but with a unique focus on nanoscience and nanotechnology.

Learning Outcomes:

What will I Study?

This degree is a physics and chemistry degree with a unique focus on nanoscience and nanotechnology. In the later years of the degree the student chooses to specialise in either physics or chemistry, but all students do the nanotechnology modules. Concentration on a single subject is not enough for any scientist, especially in as wide-ranging a subject area as nanotechnology. So as well as chemistry and physics, this degree programme covers relevant Biology, Problem Solving Skills, Computer Studies, Maths (in Years 1 and 2) and Professional Skills.

Much of the physics in years 1 and 2 is delivered using Problem Based Learning which allows students to develop additional skills and qualities sought by industry including the ability to work in teams, interpersonal skills and adaptability. IT and Computing form an integral part of the programme which is characterised by extensive practical and project components.

In addition to the scientific modules, students will take a series of professional development modules on topics such as Entrepreneurial Skills, Invention, Innovation and Commercialisation Skills and the role of science and technology in society. These modules will help graduates to apply the scientific knowledge gained on the degree in a meaningful real world manner.

Further Information

www.dit.ie/physics

School of Physics

01 402 2856 (Dr. Gordon Chambers)
gordon.chambers@dit.ie

COURSE CODE: **DT227**

COURSE LENGTH: 4 YEARS

APPROX: 25 PLACES

LOCATION: KEVIN ST

POINTS 2017 **310**

Module Listing

Year One
Physics ● Chemistry ● Biology ● Mathematics ● Computational Studies ● Science Technology & Society

Year Two
Physics ● Chemistry ● Nanoscience ● Computational Studies ● Mathematics ● Entrepreneurial Studies

Year Three
Common Modules: Nanoscience ● Chemical & Spectroscopic Techniques for Nanoscience ● Vacuum Techniques for Nanoscience ● Industrial Work Placement
Physics Major Option: Physics ● Optics, Electromagnetism ● Lasers ● Condensed Matter ● Quantum Physics
Chemistry Major Option: Chemistry ● Physical Chemistry ● Analytical Chemistry, Pharmaceutical Chemistry ● Regulatory Chemistry ● Physics ● Quantum Physics

Year Four
Common Modules: Nanoscience ● Semiconductor & Molecular Nanostructs & Devices ● Advanced Nanotechnology Topics ● Professional Development Skills ● Invention, Innovation & Commercialisation ● Nanotechnology Research Project
Physics Major Option: Physics ● Electronics ● Thermal Physics ● Nuclear Radiation & Non-ionising Radiation ● Quantum Physics of Solids ● Lasers & Optical Communications, ● Chemistry ● Surface & Photochemistry ● Inorganic Chemistry ● Chemical Control & Environmental Legislation
Chemistry Major Option: Chemistry ● Surface & Photochemistry ● Separation Science & Hyphenated Techniques ● Advanced Analysis & Polymer Chemistry ● Pharmaceutical Analysis & Drug Delivery ● Chemical Control & Environmental Legislation ● Physics ● Electronics ● Quantum Physics of Solids

What our Students say!

- Enjoyed the course from start to end
- Great hands on experience with plenty of lab practice and a work placement
- Staff are friendly and helpful and know their nano

What are my... Career Opportunities?

Many industries use nanotechnology: semiconductors and electronics, pharmaceuticals, medical devices, automotive, food, agriculture, and more. Industry across Europe is predicting a big shortage of graduates with knowledge of nanotechnology in the near future.

There's a wide range of careers for chemistry and physics graduates, many of them using the methodology of physics and chemistry: technical know-how, the logical approach, problem-solving skills. Graduates can work in physics or chemistry based industries such as medical physics, electronics, energy, telecommunications or the pharmaceutical industry.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate honours standard may have access to a wide range of Masters Degrees and PhD Degrees in DIT and elsewhere in Higher Education.

Industrial Work Placements

DIT finds employment for each student in a relevant industry for a period of seven months (February - September) during Year 3 of the degree. This is designed to give the student workplace experience and skills and to provide them with further employment prospects. In the past students have been placed within national and international companies and facilities.

You might also be INTERESTED IN:

- Physics Technology - DT222 **Pg 234**
- Physics with Energy & Environment - DT221 **Pg 236**
- Physics with Medical Physics & Bioengineering - DT235 **Pg 238**

EOLAÍOCHTAÍ BITHEACHA
BIOSCIENCES

BSc Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	* Or Applied Maths
5		04/H7*	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Biosciences?

The aim of this programme is to produce graduates with the necessary skills for employment as technicians/technologists or scientific personnel in the fields of Biotechnology and Biosciences. The 1st year of the programme will provide a solid foundation in Biology, Chemistry, Physics with the 2nd year focusing on the core subject areas of Biochemistry, Cell and Molecular Biology and Microbiology.

The final year of the programme builds on these core subjects, together with Biotechnology and specialised Bio-Industry focused modules of Pharmacology and Toxicology with Research Methods and Applications, as key developmental topics for graduates.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

Further Information

www.dit.ie/biologicalsciences

School of Biological Sciences

01 402 4562 /4925
biolsciences@dit.ie

COURSE CODE: **DT259**

COURSE LENGTH: 3 YEARS

APPROX: 35 PLACES

LOCATION: KEVIN ST

POINTS 2017 **380**

Module Listing

Year One

Core Modules: Biology ● Chemistry ● Physics ● Mathematics ● Professional Skills

These five core modules are also common to DT260 Industrial & Environmental Physics, DT261 Medicinal Chemistry & Pharmaceutical Sciences and DT212 Science (General Entry).

Students taking the Biosciences programme take two additional core modules: (a) Introduction to Microbiology and (b) Human Body & Disease and select a third optional module from Physics or Chemistry.

Year Two

Core Modules: Biochemistry ● Cell & Molecular Biology ● Microbial Growth & Genetics ● Microbial Diagnostics ● Immunology ● Anatomy & Physiology ● Research & Development in Health Life Sciences ● Software Applications ● Introductory Biostatistics.

Year Three

Biochemistry ● Biotechnology – Upstream & Downstream Bioprocessing ● Advanced Molecular Biology ● Genetic Engineering ● Environmental & Public Health Microbiology ● Biomedical Science ● Pharmacology & Toxicology ● Research Methods & Applications.

What are my... Career Opportunities?

Graduates of this programme are qualified to gain employment in many diverse fields of Biological Science as technicians/ technologists in Biomedical, Biopharmaceutical and Biotechnology industries. Graduates also avail of career opportunities in State or third level Research Laboratories.

*For more career development options please see inside front cover

What other options do I have after completion?

Candidates with good grades who wish to progress academically are eligible to apply for entry to the Level 8 (Honours) Degree BSc in Bio-molecular Science (DT226A) offered by the DIT or elsewhere in Higher Education.

You might also be INTERESTED IN:

- Biomedical Science - DT204 **Pg 196**
- Biomedical & Molecular Diagnostics - DT206 **Pg 198**
- Science (General Entry) - DT212 **Pg 254**
- Science (General Entry) - DT201 **Pg 242**

FISIC THIONSCLAÍOCH & CHOMHSHAOIL
INDUSTRIAL & ENVIRONMENTAL PHYSICS

BSc Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	* Or Applied Maths
5		04/H7*	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Industrial & Environmental Physics?

The aim of this programme is to produce graduates with the necessary skills for employment as technicians/technologists or scientific personnel in the fields of technology and physics, with a particular emphasis on the applications of physics in industrial and environmental contexts including the science underlying renewable energy and sustainable technologies.

Learning Outcomes:

What will I Study?

The first year of the programme is common with the programmes DT212 Science (General Entry), DT259 Biosciences and DT261 Medicinal Chemistry & Pharmaceutical Sciences, giving the student a broad scientific base before concentrating on the Applied Physics in Year 2 and Year 3.

The programme is offered on a modular basis. Six common core modules in biology, chemistry, physics, mathematics, professional skills and Information Technology provide students with a solid foundation in science. In the second semester there are modules of Project Based Physics, Astronomy and Environmental & Energy Physics. The student chooses an additional module from a selection of Chemistry and Biology modules on offer.

In the third year the applied and practical nature of the degree and the emphasis on environment, energy and industry come to the fore.

Further Information

www.dit.ie/physics

School of Physics

01 402 4953 (Dr. John Doran)
01 402 4736 (Dr. Elizabeth Gregan)
01 402 4988

john.doran@dit.ie
elizabeth.gregan@dit.ie

COURSE CODE: **DT260**

COURSE LENGTH: 3 YEARS

APPROX: 15 PLACES

LOCATION: KEVIN ST

POINTS 2017 **262**

Module Listing

Year One

Biology ● Chemistry ● Physics ● Mathematics ● Professional skills ● Information Technology ● Project Based Physics ● Astronomy ● Environmental & Energy Physics

Year Two

Optics & Optical Instrumentation ● Heat ● Radiation & Astrophysics ● Industrial Measurement ● Mechanics ● Physics of Materials ● AutoCAD ● Electronics ● Professional Development

Year Three

Renewable Energy Technology of Sustainability ● Applied Optics ● Acoustics & Industrial Noise ● Non-Ionising Radiation ● Atmospheric Physics ● Vacuum & Semi-Conductor Technology ● Applied Heat ● Medical Devices and Bio-engineering ● Electrical & Magnetic Properties of Materials ● Mathematics ● Final Year Research Project.

What are my... Career Opportunities?

Graduates of this programme will have experience and skill in handling instrumentation and in the analysis, interpretation, presentation and critical evaluation of data. These skills along with an up-to-date knowledge of their field makes them highly suited for careers in industry and technology, especially in industries relating to renewable energy and sustainability, as technicians or as research assistants.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates who achieve appropriate grades are eligible to apply for entry to Year 3 of the Level 8 Honours Degree programme DT222 Physics Technology.

You might also be INTERESTED IN:

- Physics Technology - DT222 **Pg 234**
- Physics with Energy & Environment - DT221 **Pg 236**
- Physics with Medical Physics & Bioengineering - DT235 **Pg 238**
- Science (General Entry) - DT212 **Pg 254**
- Science (General Entry) - DT201 **Pg 242**

CEIMIC MHÍOCHAINEACH & NA hEOLAÍOCHTAÍ CÓGAISÍOCHTA
MEDICINAL CHEMISTRY & PHARMACEUTICAL SCIENCES

BSc Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	* Or Applied Maths
5		04/H7*	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Medicinal Chemistry & Pharmaceutical Sciences?

This programme is designed to educate and train students to become Scientific Analysts for employment in the medicinal products and pharmaceutical sector as well as related chemical industries. A solid foundation in the chemical sciences is provided together with a 'hands-on' approach to laboratory work. Access to well-equipped laboratories supports the development of a high standard of practical laboratory skills. Specialised and industrially relevant modules in medicinal chemistry, pharmaceutical processes and / or the regulatory environment of the pharmachem sector are delivered at all stages. The programme is designed for the student to experience the skills and competencies required of a Chemical Analyst at all stages.

Learning Outcomes:

What will I Study?

On completion of this programme, the student will:

- Have a sound knowledge of the fundamental science underpinning the course
- Have the ability to define a scientific problem, to design and implement an appropriate experimental investigation and effectively communicate the outcome
- Have the specialised skills required to handle a broad range of techniques and instrumentation relevant to the pharmachem industry
- Demonstrate the capacity to analyse, interpret, critically evaluate and present data
- Gain experience in a team approach to problem solving and be capable of managing small groups to achieve an outcome
- Acquire the necessary computer skills to meet modern laboratory requirements
- Have an appreciation and awareness of the principles and practice of laboratory and industrial safety

What our Students say!

- I completed my Level 7 in 2008 and continued into the honours degree programme DT299 Chemical Sciences and graduated in 2009. I was exposed to a wide range of subjects & experiences which allowed me to choose my career effectively. Some of the opportunities I was given in my degree included visiting pharmaceutical companies & going on Erasmus to complete my final year thesis. I then decided to enter into a master's program in Pharmaceutical Quality Assurance and Biotechnology DT233 and completed this in 2013. Due to the small size of the classes the Lecturers knew the students personally & were always available to provide additional help if necessary. I am currently working as a Regulatory Specialist for a contract Clinical Trial Research Organisation. I would highly recommended DIT and the courses I have completed as they open up a wide range of career opportunities
- As a recent graduate of DT299 having progressed from DT261 (Level 7), I have gained a thirst for chemistry and in particular how it relates to the pharmaceutical sector, from drug design to the understanding of how the drugs work in the body. The course has truly been an invaluable experience for me. The hands on approach in each of these courses, both involving extensive laboratory sessions, was a highlight for me and provided me with essential skills for working in industry including problem solving and teamwork. I graduated from DT299 in May 2013 and DT261 the previous year and I am now working in a professional lab as an analyst in a large pharmaceutical company

Further Information

www.dit.ie/chemistry

School of Chemical & Pharmaceutical Sciences

01 402 4682 (John Colleran)
john.colleran@dit.ie

COURSE CODE: **DT261**

COURSE LENGTH: 3 YEARS

APPROX: 25 PLACES

LOCATION: KEVIN ST

POINTS 2017 **340**

Module Listing

Year One

Chemistry ● Biology ● Physics ● Maths ● Information Technology ● Professional Development ● Introduction to Medicinal Chemistry ● Elective in either Biology or Physics

Year Two

Physical, Inorganic, Organic and Analytical Chemistry ● Spectroscopy ● Chemical and Pharmaceutical Processes ● Environmental, Pharmaceutical and Medicinal Chemistry ● Pharmaceutical and Workplace Regulations ● Mathematics and IT ● Group Project

Year Three

Specialized Modules in Medicinal Chemistry, Pharmaceutical & Chemical Processes ● Pharmaceutical Analysis ● Pharmaceutical Regulations ● Quality Assurance and Validation ● Environmental Chemistry ● Surface & Polymer Chemistry

Each student undertakes an individual research project which is largely laboratory based.

In each year of the programme the overall assessment has a large component of continual assessment based on the development of technical and practical skills. Continuously assessed modules appear at all stages of the programme.

What are my... Career Opportunities?

Graduates of this programme are qualified to avail of opportunities in the Pharmaceutical Industry, Chemical Industry, Computer Industry, State Laboratories, Environmental Testing Laboratories, Food and Beverage Industry as well as Hospital Laboratories and Universities.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates of this course who achieve the appropriate grades are eligible to apply for entry to the final year of the Honours Degree programmes in Chemical Sciences with Medicinal Chemistry (DT299) and in Forensic and Environmental Chemistry (DT203).

You might also be INTERESTED IN:

- Chemical Sciences with Medicinal Chemistry - DT299 **Pg 202**
- Forensic & Environmental Chemistry - DT203 **Pg 218**

DÁILIÚCHÁN OFTALMACH
OPHTHALMIC DISPENSING

BSc Leibhéal 7 / Level 7

All students will be vetted by An Garda Síochána.

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	At least 04/H7 in one of; Physics, Chemistry, Physics & Chemistry, Biology, Agricultural Science, Home Economics, Applied Mathematics or Engineering. * Or Applied Maths
5		*03/H7	05/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Ophthalmic Dispensing?

Dispensing Opticians are eyecare professionals who are trained to interpret prescriptions issued by optometrists or ophthalmologists and to dispense spectacles and other optical aids. They advise patients on the most appropriate spectacle frames, lenses or other optical aids based on their individual needs taking into account the prescription, occupation and lifestyle of the patient. They are trained to take the measurements required for the fitting of such optical appliances. Dispensing Opticians also check spectacles and other appliances to ensure they match the patient's specification and meet the required standards. They advise patients on how to get the best from their eyewear and play an important role in aftercare and the maintenance of such appliances.

Dispensing opticians play a vital role in providing the best low vision aid for partially sighted patients and the best fitting frame and lens design for children. They are also trained to advise on sports and protective eyewear. Subsequent to further qualification they may fit contact lenses. Dispensing opticians are often involved in optical practice management.

A career as a dispensing optician is extremely rewarding. It offers great variety and will deliver a high degree of job satisfaction to those attracted to a career in a healthcare setting, who have an interest in maths and science, relish problem solving and enjoy interacting with the general public.

The profession of ophthalmic dispensing is regulated in Ireland under CORU (the Health and Social Care Professional's Council). Further information is available at www.dit.ie/optometry/ophthalmicdispensing/

Learning Outcomes:

What will I Study?

This programme is 3 years in duration. The first two years of the programme are delivered in the laboratories and lecture theatres on campus. The third year of the programme is a structured work placement. The first year focuses on the relevant science maths and introduction to optical dispensing necessary for your training. The second year's practical and theoretical work is more tailored towards the specific skills and knowledge required of a Dispensing Optician. You will learn about spectacles lens and frame, design and manufacture. You will also learn how to take frame and facial measurements, how to interpret prescriptions and carry out a detailed task analysis to ensure patients receive the most appropriate optical aid. Students are also introduced to the fundamentals of optical practice management. Your work placement in year three allows you to learn how to apply your knowledge and skills in a practice setting.

Important Information

Students will be required to undergo Garda Vetting. Students must complete the required documentation, including a full list of all previous addresses, in order for clearance checks to be made. Currently Irish addresses are vetted by the Garda Vetting Bureau at no cost to the student.

Further Information

www.dit.ie/physics

School of Physics and Clinical & Optometric Sciences

01 402 4942 (Patricia Mordaunt)
01 402 2872 (Claire Mc Donnell)

patricia.mordaunt@dit.ie
claire.e.mcdonnell@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT219	3 YEARS	15 PLACES	KEVIN ST	312

Module Listing

Year One

Geometrical Optics ● Physical Optics ● Quantitative Methods in Dispensing ● Visual Science ● Cell Biology ● The Human Body & Disease ● Ophthalmic Optics & Dispensing ● Physics for Health Science ● Mathematics Mathematics for Optical Professions ● Anatomy & Physiology of the Eye

Year Two

Vision Science ● Professional Development ● Optical Dispensing ● Case Analysis & Preparation for Placement ● Contact Lens Practice & Anterior Eye Disorders ● Occupational Vision ● Introductory Vision Rehabilitation ● Optical Practice Management ● Physiology of Vision ● Intercultural Health Communication for Eye Care Professionals & and Professional Studies

Year Three

Optical Dispensing Case Studies ● Ophthalmic Dispensing Practice Placement

What our Students say!

- "Because the class is small you make friends very quickly, but you still have the benefits of a large class too because we spend so much time with the optometry students. Right from the start we are learning and practicing skills that are directly applicable to the job of dispensing and even getting a weekend or summer job is fairly easy because there is such a shortage of dispensing opticians out there. The course wasn't my first choice but I'm so glad that I ended up on it."

What are my... Career Opportunities?

This is a new and unique programme in Ireland but there are currently almost 200 dispensing opticians working in Ireland who have gained their qualifications abroad. Dispensing opticians are in high demand so job prospects are excellent. Most dispensing opticians work in private practice, often in a management capacity. However there are a diverse range of employment opportunities. Dispensing opticians often set up their own practices or enter joint ventures with large multiples. At present in Ireland dispensing opticians are also employed with spectacle lens manufacturers, frame manufacturers, glazing houses, hospital eye departments, practice management software providers and as college lecturers.

*For more career development options please see inside front cover

What other options do I have after completion?

Dispensing Opticians can gain additional qualification by means of further study in the UK. Subsequent to further qualification they may fit contact lenses. Further study is also available in the areas of low vision management, workshop practice, lens design and geometric optics. Most of this further study can be undertaken via distance learning while working in practice. As mentioned above this course is new to DIT and it was set up to fill a gap in the Irish education system and because there is a shortage of dispensing opticians. The profession of ophthalmic dispensing is growing and developing and with that will come further opportunities for advanced qualification.

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

You might also be INTERESTED IN:

- Optometry - DT224 **Pg 230**

EOLAÍOCHT (IONTRÁIL GHINEARÁLTA)
SCIENCE (GENERAL ENTRY)

BSc Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	* Or Applied Maths
5		04/H7*	06/H7	

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is...Science?

The main aim of this programme is to produce graduates with the necessary skills for employment as technicians/technologists or scientific personnel in the fields of Biosciences, Chemistry and Physics.

Learning Outcomes:

What will I Study?

Students will be able to select from a range of specialised modules which will be delivered in the second semester of year one including; Medicinal Chemistry, Astronomy/Environmental and Energy Physics and Human Biology and Disease. Entry to this course affords the opportunity to experience the three main scientific subjects prior to committing to a specific course. After successful completion of the first year students will select and transfer to the second year of one of the following courses and will complete their studies as registered students of this course: BSc Biosciences (DT259) BSc Industrial and Environmental Physics (DT260), BSc Medicinal Chemistry and Pharmaceutical Science (DT261).

Further Information

see below

School of Physics

01 402 4953 (Dr. John Doran)
john.doran@dit.ie
www.dit.ie/physics

School of Biological Sciences

01 402 4562/4925 (School Office)
biolsciences@dit.ie
www.dit.ie/biologicalsciences

School of Chemical & Pharmaceutical Sciences

01 402 4779 (Professor John Cassidy)
john.cassidy@dit.ie
www.dit.ie/chemistry

COURSE CODE: **DT212**

COURSE LENGTH: 1 YEAR

APPROX: 40 PLACES

LOCATION: KEVIN ST

POINTS 2017 **381**

Module Listing

Year One

The course is offered on a modular basis. Six common core modules in Biology, Chemistry, Physics, Mathematics, Professional Skills and Information Technology provide students with a sound foundation in science. Students are required to take an additional three modules commencing in semester two. Selection of these modules depends on the preferred choice of course that a student will select following successful completion of the Year one examinations.

Year Two & Year Three

Each student will transfer into the second year of one of the following three courses upon successful completion of the Year one examination: BSc Biosciences (DT259), BSc Industrial and Environmental Physics (DT260), BSc Medicinal Chemistry and Pharmaceutical Science (DT261).

What are my... Career Opportunities?

Please see course entries for: DT259, DT260 & DT261

What other options do I have after completion?

Bachelor of Science (Biosciences) OR Bachelor of Science (Industrial and Environmental Physics) OR Bachelor of Science (Medicinal Chemistry and Pharmaceutical Sciences).

You might also be INTERESTED IN:

- Science (General Entry) - DT201 **Pg 242**
- Industrial & Environmental Physics - DT260 **Pg 248**
- Medicinal Chemistry & Pharmaceutical Science - DT261 **Pg250**
- Biosciences - DT259 **Pg 246**

EOLAÍOCHT AN BHIA & BAINISTÍOCHT
FOOD SCIENCE & MANAGEMENT

Ardteatas Leibhéal 6 / Higher Certificate Level 6

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		06/H7	06/H7

Other Requirements

At least 06/H7 in one of: Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science or Home Economics.

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Food Science & Management?

This two year full-time programme provides students with scientific and technical understanding of food science and associated technologies as well as the business skills required to respond to the current needs of the food industry.

Learning Outcomes:

What will I Study?

In food science, the biological, physical and engineering sciences are applied to study the nature of foods, the causes of deterioration, the principles of food processing, and the improvement required to meet consumers demand. This programme provides education and training in the practical and theoretical aspects of food science in addition to the basic sciences such as biology, chemistry, microbiology and maths. In addition to its scientific content, this programme also offers education in the fundamentals of business and management which are essential to bring food products to the marketplace.

The programme features a major practical project in the second year, in which students work together in teams to apply their learned scientific and business management knowledge in the development of food products. These projects often develop innovative products targeting specific nutritional needs of consumers or emerging market trends.

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 7550 (Dr. David O'Connor)

david.i.oconnor@dit.ie

COURSE CODE: **DT424**

COURSE LENGTH: 2 YEARS

APPROX: 32 PLACES

LOCATION: CATHAL BRUGHA ST

POINTS 2017 **290**

Module Listing

Year One

Biology ● Foundation Chemistry ● Foundation Organic Chemistry ● Applied Food Industry Communications ● Laboratory Techniques & Computer Applications ● Introduction to Occupational Health & Safety Management ● Introductory Microbiology ● Mathematics for Scientists ● Introduction to Food Science & Analysis ● Principles of Food Processing & Preservation ● Business Management & Marketing

Year Two

Animal Products Technology ● Horticultural Product Technology ● Quality & Hygiene Systems ● Basic Sensory Evaluation ● Food Ingredients & Consumer Foods ● Introductory Nutrition ● Food Product Regulatory Affairs ● Basic Food Microbiology ● Financial Management ● Final Year Project

What are my... Career Opportunities?

With the Irish food industry currently experiencing significant growth and placed to be a major contributor to the economic recovery in Ireland, this course provides rewarding job opportunities for those wishing to be part of this vital sector including junior management jobs, food product development, market research and quality control.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates may progress to higher level programmes, up to BSc honours degree level within DIT or elsewhere, provided they meet the specific requirements of the chosen programme.

You might also be INTERESTED IN:

- Food Innovation - DT421 **Pg 216**
- Nutraceuticals in Health & Nutrition - DT420 **Pg 228**
- Pharmaceutical Healthcare - DT422 **Pg 232**

STAIDÉAR TEICNEORA CÓGASLAINNE
PHARMACY TECHNICIAN STUDIES

Ardteatas Leibhéal 6 / Higher Certificate Level 6

LEAVING CERT ENTRY REQUIREMENTS:

Minimum Nº of		Minimum Grade in	
Subjects	Honours	Maths	English
5		06/H7	06/H7

Other Requirements

At least 06/H7 in one of: Biology, Chemistry or Physics and Chemistry.

QQI LEVEL 5 ENTRY REQUIREMENTS:

A QQI Level 5 entry route to this programme is available. Please visit www.dit.ie/studyatdit/undergraduate/howtoapply

What is... Pharmacy Technician Studies?

This programme prepares students for a profession as a Pharmacy Technician in either a hospital or community pharmacy. It develops practical, professional and academic skills required to assist in the various activities of the pharmacy, not requiring the professional judgement of the pharmacist.

What our Students say!

- The Pharmacy Technician Studies course has been a remarkable grounding in the sciences and labs and has provided me with a diverse amount of knowledge in the area of Pharmacy and Pharmacy related subjects. The teaching has been impeccable and the intimate feel of the college is what makes studying at DIT truly unique. Lectures didn't feel like huge halls, but more like intimate classrooms, where it was perfectly acceptable and encouraged to stop lecturers mid sentence and ask questions when required. In addition to this, lecturers would sacrifice their time to students even after class to help with queries. Hence, the learning environment was very much supported. From day one of induction, I remember how we were all advised to be there for one another throughout our time in DIT as after all, our chosen profession is a caring one. The camaraderie within the class was wonderful and the structure of the course, with its large emphasis on labs, ensures team work which helps forge great relationships. My interest in the area of Pharmacy began after having worked in a Community Pharmacy for close to a year. I used the Technician Studies course as a gauge to determine would I be left with a sense of wanting to delve deeper into the subject afterwards. The academic experience has exceeded my expectations and has led me to apply for a Pharmacy Degree and I thank the Pharmacy Technician Studies course for paving the way for my passion in the area.

Learning Outcomes:

What will I Study?

The skills learned on this programme include knowledge of prescription and non-prescription medicines, and how they are formulated and used to treat illnesses. Students will develop medical knowledge to recognise common illnesses and communication skills to liaise with pharmacists and counsel patients on healthcare issues, including the various healthcare schemes available in Ireland.

Students will gain experience in dispensing procedures and practices and be able to interpret prescriptions and prepare medicines for dispensing. They will be able to maintain patient records and operate pharmacy computer systems. They will also be able to supply non-prescription medicines in accordance with legislation and guidelines.

Students will have a detailed course in Health and Safety to ensure they will carry out their duties in a safe manner.

Furthermore, central to the philosophy of the course is that graduates will have a theoretical and practical training in basic sciences, including biology, chemistry, microbiology, maths, and pharmacology. These subjects support the pharmacy technician profession, and also provide a pathway to higher qualifications, including BSc Pharmacy.

Work Placement: The programme includes a Pharmacy placement, which can be carried out either in a hospital or community pharmacy. This allows the opportunity to apply theoretical knowledge and skills. This work placement is flexible and time allowances can be accumulated working in a Pharmacy throughout the duration of the programme. Prior experience in a pharmacy can be considered as part of the placement. Please note, while encouraged, payment for this placement is not guaranteed, and is subject to arrangement between student and placement pharmacy.

Further Information

www.dit.ie/fseh

School of Food Science & Environmental Health

01 402 4400 (Dr. Julie Dunne- course co-ordinator) julie.dunne@dit.ie

01 402 4355 School Administrator

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT425	2 YEARS	32 PLACES	CATHAL BRUGHA ST	357

Module Listing

Year One

Biology ● Chemistry ● Introduction to Business with IT skills ● Microbiology ● Pharmacy Practice ● Mathematics for Scientists ● Pharmacology & Toxicology ● Introduction to Occupational Safety & Health Management ● Professional Development ePortfolio

Year Two

Nutrition & Health Studies ● Basic Pharmaceutical Microbiology ● Pharmacology & Therapeutics ● Pharmaceutical Formulations ● Pharmacy Practice ● Pharmacy Work Placement

What are my... Career Opportunities?

A rewarding career as a Pharmacy Technician, with many employment opportunities in community and hospital pharmacy awaits graduates of this programme. Other employment opportunities include medical sales for pharmaceutical suppliers.

*For more career development options please see inside front cover

What other options do I have after completion?

Progression opportunities for further study also exist, including Pharmacy Degrees and Pharmaceutical and Scientific Qualifications in Ireland and elsewhere. Opportunities exist within the school to transfer to an honours degree in Pharmaceutical Healthcare. Recent evidence suggests that in addition to offers of pharmacy study in the UK, graduates are also being interviewed to study BSc Pharmacy in Ireland.

You might also be INTERESTED IN:

- Pharmaceutical Healthcare - DT422 Pg 232

STAIDÉAR TEICNEORA CÓGASLAINNE
PHARMACY TECHNICIAN STUDIES

Ardteatas Leibhéal 6 / Higher Certificate Level 6

ENTRY REQUIREMENTS:

Students must demonstrate considerable prior knowledge in Science. They will be evaluated on a case by case basis.

What is... Pharmacy Technician Studies?

This programme prepares students for a profession as a Pharmacy Technician, and is completed in one year. It is a shortened version of the two year DT425 programme, and has been designed for students with significant prior learning in Science. It develops practical, professional and academic skills required to assist in the various activities of the pharmacy, not requiring the professional judgement of the pharmacist. These skills include knowledge of prescription and non-prescription medicines, and how they are formulated and used to treat illnesses.

Learning Outcomes:

What will I Study?

Students will develop medical knowledge to recognise common illnesses and communication skills to liaise with pharmacists and counsel patients on healthcare issues, including the various healthcare schemes available in Ireland. Students will gain experience in dispensing procedures and practices and be able to interpret prescriptions and prepare medicines for dispensing. They will be able to maintain patient records and operate pharmacy computer systems. They will also be able to supply non-prescription medicines in accordance with legislation and guidelines.

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01 402 4355 School Administrator
julie.dunne@dit.ie

COURSE CODE:	COURSE LENGTH:	APPROX:	LOCATION:	POINTS 2017
DT6425	1 YEAR	10 PLACES	CATHAL BRUGHA ST	ADVANCED ENTRY

Module Listing

Year One

Pharmacy Practice ● Pharmacology & Therapeutics ● Pharmaceutical Formulation ● Pharmaceutical Microbiology ● Nutrition & Physiology ● Pharmacy Placement ● Professional Development ePortfolio

OPEN DAY 2017
DIT AUNGIER ST.
9AM-2PM 01.12-02.12

What are my... Career Opportunities?

A rewarding career as a Pharmacy Technician, with many employment opportunities in community and hospital pharmacy awaits graduates of this programme. Other employment opportunities include medical sales for pharmaceutical suppliers.

*For more career development options please see inside front cover

What other options do I have after completion?

Progression opportunities for further study exist, including Pharmacy Degrees in the UK and Ireland, and pharmaceutical and scientific qualifications in Ireland and elsewhere. Students who attain an Upper Merit are eligible to transfer to DT422 BSc Pharmaceutical Healthcare.

Are there study abroad options?

Students can avail of up to two months' work placement in a pharmacy abroad.

You might also be INTERESTED IN:

- Pharmaceutical Healthcare - DT422 Pg 232