

ENGINEERING & BUILT ENVIRONMENT

“THIS IS YOUR GUIDE TO A
CAREER IN ENGINEERING,
TO A LIFE OF ADVENTURE,
ACHIEVEMENT AND DISCOVERY”



HONOURS DEGREES - LEVEL 8

Architecture
Architectural Technology
Building Services Engineering (HCVAR)
Civil Engineering
Computer & Communications Engineering
Construction Management
Electrical Services & Energy Management
Electrical/Electronic Engineering
Engineering (General Entry)
Geomatics (Surveying & Mapping)
Manufacturing & Design Engineering
Mechanical Engineering
Medical Device Innovation
Networking Applications & Services
Planning & Environmental Management
Product Design
Property Economics
Quantity Surveying & Construction Economics
Structural Engineering
Transport Operations & Technology

CODE

DT101
DT175
DT026
DT027
DT081
DT117
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ORDINARY DEGREES - LEVEL 7

Auctioneering, Valuation & Estate Agency
Automation Engineering
Automotive Management & Technology
Aviation Technology
Building Services Engineering (HCVAR)
Civil Engineering
Electrical & Control Engineering
Electronics & Communications Engineering
Engineering (General Entry)
Engineering Systems Maintenance
Mechanical Engineering
Networking Technologies
Sustainable Design In Electrical Services Engineering
Timber Product Technology

DT104
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HIGHER CERTIFICATES - LEVEL 6

Buildings Management (Maintenance & Conservation)

DT170

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AITIREACHT ARCHITECTURE

BArch Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	OD3

Other Requirements

Applicants must attend a suitability test & interview.
Suitability Test = 100 points
Interview = 100 points

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Architecture?

Architecture is the art and science of designing space. Students considering this career should have a creative aptitude for architectural design and the organisational ability to implement their designs in practice. They should also have an interest in artistic and cultural aspects of society as well as an aptitude for technical and managerial challenges.

Learning Outcomes:

What will I Study?

This five year programme covers topics such as design studio, history theory and criticism of architecture, environment, construction, visual and digital communications, computer applications and law. The majority of the student experience centres around studio based design projects which allow the student to design buildings and explore the urban and rural context. There is a strong emphasis on studio work and exploring the students' own understanding of architecture throughout the programme.

The DIT degree in Architecture is recognised throughout EU member states. Following two years of postgraduate experience they may take the examination in Professional Competence and thus become members of the R.I.A.I and register as an architect.



Further Information

www.dit.ie/architecture

School of Architecture



01 402 3690 (Aileen Mullane - School Admin)
dsa@dit.ie

COURSE CODE:

DT101

COURSE LENGTH:

5 YEARS

APPROX:

55 PLACES

LOCATIONS

BOLTON ST (LINEN HALL)

POINTS 2015

590

Module Listing

Year One to Five

- Architecture Design Studio ● History Theory & Criticism
- Environment Services and Materials ● Building Technology & Structures ● Visual Communication ● Technical Studio
- Professional Studies ● Thesis Development ● Optional Modules



What are my... Career Opportunities?

The qualification is for the profession of Architecture. Architects are concerned with the design and construction of buildings. They may practice in a personal professional capacity, or in employment in private and public sector organisations. The field of practice is quite extensive in Ireland and abroad and may offer alternatives of general practice or specialisation throughout a career. Many graduates have pursued very successful careers abroad and others have gone on to become prominent architects in Ireland.

*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.



You might also be INTERESTED IN:

- ♦ Architectural Technology - DT175 Pg 130

TEICNEOLAÍOCHT NA hAILTIREACHTA

ARCHITECTURAL TECHNOLOGY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	OD3

Other Requirements

The DT175 BSc (Honours) Architectural Technology requires an aptitude for three dimensional technical design. Applicants who take and perform well in the Leaving Certificate subjects of Art, Construction Studies, Engineering, DCG and/or Technology, generally show a greater suitability for the area of study than those without any of these subjects. From 2017, applicants will be required to have a Higher Level C in at least one of these five Leaving Certificate subjects to be admitted to the programme.

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Architectural Technology?

An Architectural Technologist is a technical designer skilled in the application and integration of architectural and construction technologies in the building design process.

The DT175 BSc (Honours) Architectural Technology programme is professionally accredited by the Royal Institute of the Architects of Ireland (RIAI).

Learning Outcomes:

What will I Study?

The DT175 BSc (Honours) Architectural Technology is a studio-based programme. Studio provides a structured setting in which the student is exposed to a variety of teaching and learning experiences. Project work is undertaken against the background of lectures, critiques, one to one tutorials, seminars, group work and construction skills classes.

Technical Design Studio provides a focus for the development of skills in three-dimensional problem solving. These skills include freehand drawing, hard line mechanical drawing and model making. Studio project work also allows the development of skills in Building Information Modelling (BIM) to produce 3D digital models and 2D working drawings. The presentation of studio projects in crits encourages the development of the student's verbal communication skills.

The studio format offers flexibility for students to attend project related site visits and field trips away from the college environment, thereby widening their understanding of the context of their project work. These experiences are supplemented by industry and professional presentations, specialist structural engineering and mechanical & electrical engineering design workshops, and visits to building exhibitions.

In studio, students have unrestricted access to a dedicated workspace and work alongside one another for long periods of time, both during timetabled contact hours and beyond. Studios are equipped with both manual drawing facilities and PCs, allowing students to carry out their project work using a variety of media and approaches.

The programme includes work placement in Semester 1 of Year 3.

Further Information

www.dit.ie/architecture

School of Architecture



01 402 3691 (Cormac Allen, Head of Department)
cormac.allen@dit.ie

COURSE CODE:

DT175

COURSE LENGTH:

4 YEARS

APPROX.

50 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

335

Module Listing

Years One - Four

Building Performance • Building Information Modelling • Professional Development • Technical Design Studio 1 - Masonry Technologies • Technical Design Studio 2 - Timber Steel & Concrete Technologies • Professional Practice Placement - Architectural Technology Building Technology • Technical Design Studio 3 - Multi-Cell Engineered Timber Technologies • Technical Design Studio 4 - Thesis 1 • Technical Design Studio 5 - Thesis 2 • Technical Design Dissertation

What are my... Career Opportunities?

The Architectural Technologist is a highly skilled technical professional trained to play a leading role in the increasingly complex technical design process which drives contemporary architecture and building.

With the rapid development of digital information technologies, DIT Architectural Technologists have emerged as leaders in the creation, integration and management of technical information through the medium of Building Information Modelling (BIM). Working in multidisciplinary and collaborative design teams, technologists have the skills to communicate with and coordinate the work of other building design professionals. DIT architectural technologists are technical professionals and are highly sought after in the Architectural Engineering and Construction (AEC) industry in Ireland and abroad.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates of the DT175 BSc (Honours) Architectural Technology programme will be eligible to progress to various Level 9 programmes such as the DIT MSc in Applied Building Information Modelling & Management, and following practice experience to the DIT MSc Energy Retrofit Technology and Postgraduate Certificate in Thermal Performance Modelling.



You might also be INTERESTED IN:

- Architecture - DT101 [Pg 128](#)

INNEALTÓIREACHT SHEIRBHÍSÍ FOIRGNÍOCHTA (HVACR) BUILDING SERVICES ENGINEERING (HVACR)

BE Leibhéal 8 / Level 8

FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

ENTRY REQUIREMENTS:

Successful completion of DT066

What is... Building Services Engineering (HVCAR)?

The buildings in which we live and work use about half our national energy. This energy use contributes to the CO₂ [greenhouse gas] emissions. Building Services Engineers together with architects and structural engineers design environmentally-friendly new buildings and retrofit existing buildings and are responsible for the many mechanical and electrical systems that make our buildings work including heating, ventilation, air-conditioning, refrigeration, water supply, fire protection, power, lighting and data communication systems. Creating such buildings that function effectively makes for a challenging and rewarding career. This year the programme is 30 years in existence.

What our Students say!

- Dominic MacA'Choiligh graduate of the DT026 programme and currently working as a senior design engineer in Building Services Engineering in Sydney.
"Having worked in the industry for the past six years both in Ireland and internationally I have found that the DIT Building Services Engineering Honours Degree Programme has given me both the practical and technical skills needed to work on a wide variety of interesting and significant projects, including the Sydney Opera House. The programme portability was key in giving me the background needed to work overseas where without having to sit any additional local examinations I have been able to easily transition to working with different design conditions, climate and environments. The fact that in Australia CIBSE design standards are also used was very beneficial. I have always found that employers, both domestically and internationally, have a very high regard for the course and its graduates."

Learning Outcomes:

What will I Study?

While there is a strong emphasis in the programme on the applied technology of mechanical and electrical systems (M&E) this delivery is complemented by a solid education in the underlying principles. As an honours degree programme with a 30 year unbroken history of accreditation by Engineers Ireland (the statutory body for regulation of the engineering profession) the programme delivery covers the four key areas necessary to produce a fully rounded professional engineer: (i) fundamental engineering education (ii) applied M&E modules in the discipline (iii) systems design skills through projects and software (iv) communication and management skills.

Contained within the programme are a number of modules which are virtually unique at undergraduate level in Ireland such as Refrigeration, Lighting and Acoustics, Facilities and Fire Engineering, and Energy in Buildings. The student is provided with an opportunity to study these areas to a depth not generally encountered at undergraduate level and as a result many go on to specialise in these specific areas.

Another unique feature of the programme is our three layered approach to the delivery of the increasingly important area of the dynamic thermal modelling of buildings and system performance. This involves the underlying principles, followed by computer modelling modules and finally the application is taught using industry standard software (such as IES).

The design of this programme results in a graduate who is well positioned to gain rewarding employment directly on graduation and is unlike many generic programmes which require further post graduate qualifications to gain employment.

Further Information

www.dit.ie/civilengineering

School of Civil Engineering

- 01 402 3826 (Dr B. Costelloe, Head of Department)
- 01 402 3635 (School Office)

✉ cbse@dit.ie

COURSE CODE:

DT026

COURSE LENGTH:

3 YEARS

APPROX:

30 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

(SEE DT066)

Module Listing

Year Two

Mathematics • Fluid Mechanics • Thermodynamics • Electrical Engineering & Electronics • Building Fabric Load Assessment & Computer Modelling • Engineering Economics & Management • Design of Systems Assignments • Engineering Materials • Fuels Combustion Gas & Sanitary Services • Air Conditioning & Refrigeration • Emerging & Renewable Energy Technologies

Year Three

Mathematics & Engineering Computation • Lighting and Acoustics • Fluid Mechanics • Heating Systems Design • Electrical Power Systems • Heat Transfer in Buildings • Systems Design Practice (Project) • Systems Design Practice (Software Utilisation) • Air Conditioning & Ventilation • Refrigeration • Technical Investigation Report • Emerging and Renewable Energy Technologies

Year Four

Computer Modelling & Simulation • Heat & Mass Transfer • Engineering Project Management • Air Conditioning Engineering • Fire Engineering • Control Engineering • Facilities Engineering • Energy & Buildings • Major Design Project (15 credits)

In all years of the programme there is a strong emphasis on low energy solutions.

What are my... Career Opportunities?

Career opportunities are found in four key areas: (i) in the exciting field of Low Energy Systems and utilising Renewable Energy from solar, geothermal and ambient sources (ii) in design of modern industrial facilities for clean room manufacturing in Pharmaceuticals, Microprocessors, Medical Devices (iii) in Energy and Facilities Management and in (iv) Project Management and statutory validation. Graduates are traditionally employed with blue chip organisations such as: ARUP, Hoare Lea, Jones Engineering Group, AXISENG, PM Group, Hevac, Grundfos, HSE, OPW.

*For more career development options please see inside front cover

What other options do I have after completion?

Generally graduates who reach an appropriate honours level have access to a range of taught masters degrees. Past graduates have progressed to PhD level in specialist research in Fire, Electrochromic Glazing and Low Energy Solutions. As a graduate with an accredited degree by Engineers Ireland you will have opportunities to progress to registered professional engineer status in Ireland and abroad.

Are there study abroad options?

Through the Erasmus Exchange Programme there are established links with continental colleges in Germany, France and Finland. There are particularly long established exchanges with the Hochschule Munchen (University of Applied Sciences in Munich). As a centre for Building Services Engineering in Germany this university is equipped with nine specialist laboratories covering all aspects of the discipline.

You might also be INTERESTED IN:

- Building Services Engineering (HVACR) - DT005 **Pg 132**
- Civil Engineering - DT027 **Pg 134**
- Civil Engineering - DT004 **Pg 178**
- Building Management - DT170 **Pg 196**

INNEALTÓIREACHT SHIBHIALTA

CIVIL ENGINEERING

BE Leibhéal 8 / Level 8

FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

ENTRY REQUIREMENTS:

Successful completion of DT066

What is... Civil Engineering?

Civil Engineering involves the design and construction of roads, bridges, railways, dams, water supply systems and sanitary services and therefore the Civil Engineer plays a major role in their development and construction.

Learning Outcomes:

What will I Study?

Students enter the second year of Civil & Structural Engineering following the completion of General Entry Engineering (DT066).

Students commencing the third year Degree programmes may be offered a choice of the Civil or Structural Engineering degree. Places are limited and successful students will be offered places depending on their performance in Year 2. All students will be offered a place on one of the programmes.

Subjects studied include mathematics, surveying, construction technology, design of structures, soil mechanics, computing, highway engineering transportation, hydraulics, environmental engineering and laboratory work.

A major project is undertaken in the final year.



Further Information

www.dit.ie/civilengineering

School of Civil Engineering



01 402 3638 (Mr Joe Kindregan, Head of Department)
joseph.kindregan@dit.ie

COURSE CODE:

DT027

COURSE LENGTH:

3 YEARS

APPROX:

25 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

(SEE DT066)

Module Listing

Year Two

Mathematics & Statistics • Mechanics of Materials • Surveying, Hydraulics • Concrete Technology • Construction Technology Professional Development • Structural Analysis • Laboratory Work • Project (Surveying) • Computing

Year Three

Mathematics • Structural Mechanics • Professional Development • Hydraulics • Design of Structural Elements • Environmental Engineering • Geotechnical Engineering • Laboratory Work • Project • Highway Engineering

Year Four

Engineering Mathematics • Environmental Engineering • Civil Engineering Practice & Law • Construction Management & Economics • Design of Structures Steel & Concrete • Highway Engineering • Civil Engineering Scheme Design • Laboratory Work • Individual Project

What are my... Career Opportunities?

Graduates can expect excellent employment prospects with recognised career path opportunities in consulting engineering design offices contracting, local authorities and public bodies. Graduates can expect a varied and challenging career with good salaries, secure employment and good promotion opportunities.

*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.



You might also be INTERESTED IN:

- Civil Engineering - DT004 Pg 178

INNEALTÓIREACHT RÍOMHAIREACHTA & CUMARSÁIDE COMPUTER & COMMUNICATIONS ENGINEERING

BE Leibhéal 8 / Level 8

ENTRY TO YEAR TWO FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

LEAVING CERT ENTRY REQUIREMENTS YEAR ONE:

Minimum N° of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2	HC3	OD3	A good mathematical and analytical ability is required for all degree options.

What is...Computer & Communications Engineering?

The use of mobile telephony and the Internet continues to transform our social and business lives. Global data networks enable us to communicate via text messages, voice or video, to access and exchange information and to transact business securely. These networks provide the links between computer systems or specialised computing devices. In order to maximise the benefits of this blending of communications and computing technologies, organisations are increasingly reliant on access to a new range of engineering development skills. Given the level of demand, such skills are in short-supply and this programme addresses the need to provide appropriate, key, technical professionals and offers the prospect of valuable career opportunities.

Learning Outcomes:

What will I Study?

This programme prepares students for a rewarding professional career as a communications and IT engineering specialist in a very wide range of manufacturing, service and public sector organisations and is accredited by the national professional engineering organisation, Engineers Ireland.

The programme combines elements of electronic, software and communications engineering and associated hardware appropriate to the merging of technologies encountered in today's ICT systems. Lecture and tutorial material is applied in practical project and laboratory work. A strong emphasis is placed on the development of application-oriented design and development skills and in-depth knowledge relevant to the needs of both high-tech ICT producers, advanced system providers and operators.

For Ordinary Degree and Diploma holders (Level 7 or equivalent) the final two years of this programme may be undertaken on a part-time basis (see DT074). A full programme outline is available on our website: www.electronics.dit.ie.



What our Students say!

- Third Year Student:** "My degree is a four-year programme designed to bridge the gap between software and hardware. It incorporates computer, electronic and communication engineering and there is a good selection of topics to choose from if I wish to pursue a Master's Degree."
- Fourth Year Student:** "The big bonus with this programme is, you become a very valuable graduate through the work placement options. I chose to take the internship route and I am currently on my second year of internship with a large multinational company. I work two days a week and attend college three days a week. It is terrific, as what I am learning in college, I am putting into use at work. It all makes so much more sense when you put theory into practice. My internship company, have now offered me a full time employment contract when I complete my studies in May"

Further Information

www.dit.ie/electricelectronicengineering

School of Electrical & Electronic Engineering



01 402 4802 (Mr John Dalton)
01 402 4575/4665 (School Admin)



john.dalton@electronics.dit.ie
info@electronics.dit.ie



Ireland's EU Structural Funds
Programmes 2007 - 2013
Co-funded by the Irish Government
and the European Union

COURSE CODE:

DT081

COURSE LENGTH:

3/4 YEARS

APPROX:

30 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

380

Module Listing

Year One

The programme is delivered in modular format across two semesters. All modules are compulsory and comprise:
Engineering Mathematics • Engineering Design Projects
• Technical Graphics • Physics • Chemistry • Mechanics
• Electrotechnology • Instrumentation for Engineers •
Engineering Professional Practice • Engineering Computing

Year Two

Mathematics • Communications Networks • Engineering
Mechanics & Materials • Regulatory Environment
& Engineer in Society • Digital Electronic Design •
Software Development • Computer Architecture • Digital
Communications • Analogue Electronics • Signals & Systems

Year Three

Mathematics • Field Theory & Digital Signal Processing •
Digital Communications • Data Communications • Software
Engineering • Business & Management • Operating Systems
• Project Management • Work Placement /Internship

Year Four

Mathematics • Real Time & Embedded Systems
• Data Communications • Distributed Systems •
Engineering Project • Computer Architecture • Wireless
Communications, Management • Marketing & Law •
Advanced Signal Processing • Option Module

The Engineering Project Module is a major engineering project, which runs throughout the second semester of the year.

Internships/Work Placements

Option 1: 6 months continuous placement in a company in Ireland or abroad*, in the second semester of the third year.

*One of our students undertook their placement in CISCO Systems, San José, California.

Option 2: Our new internship programme involves two consecutive days per week placement within industry in the final two years of this programme. INTEL, ESB, AVAYA, VILICOM, HEAnet & Ericsson are all companies participating on the internship.

What are my... Career Opportunities?

This programme provides graduates with a wide range of satisfying and well-paid professional career opportunities both in industry and in the wider economy. Initially, graduates may typically be expected to take up employment as communications, network, software or computer engineers.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who reach an appropriate honours standard may progress to a range of Masters Degrees or Doctorate programmes in DIT or elsewhere in Higher Education. The School offers a Taught Masters programme in Electronic & Communications Engineering (DT086).

You might also be INTERESTED IN:

- Electrical/Electronic Engineering - DT021 **Pg 142**
- Networking Technologies - DT080 **Pg 190**
- Sustainable Design In Electrical Services Engineering - DT010 **Pg 192**

- Electrical & Control Engineering- DT009 **Pg180**
- Electronics & Communications Engineering - DT008 **Pg 182**

BAINISTÍOCHT FOIRGNÍOCHTA CONSTRUCTION MANAGEMENT

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:
CCONT / 5M5010 Construction Technology

FIVE DISTINCTIONS

What is... Construction Management?

This programme is designed for those who wish to make a career in management not only in the construction industry, but also in a wide range of growing areas such as in the sustainability, conservation and maintenance, retail and information technology management sectors.

This qualification has been accredited to the Chartered Institute of Building (CIOB) and, over the years, has become known and recognised internationally.

Learning Outcomes:

What will I Study?

The primary emphasis is in the education of the manager in the construction sector and in the development of a high level of competency in managing and planning the execution of projects in the most efficient, effective and safety conscious manner.

The programme will also cover the technical aspects of construction work, including quantity surveying, land surveying, CAD and construction related IT systems such as the emerging area of Building Information System. The different material, technologies and systems used on construction sites in Ireland and abroad are reviewed, including in the growing sustainability, conservation and renovation areas.

The overall programme provides a good balance between classes and practical work. In particular, the Work Experience module in the third year of the programme allows the student to experience at first hand the challenges and opportunities of working in the industry for a whole semester. A study field trip also takes place during the second year of the programme to introduce students to the principles of building conservation in other EU states in order to expand their employment potential and options.



What our Students say!

- Having worked in the construction industry before hand and after consulting my peers I chose this course last year because this programme is a widely recognised qualification
- This course provides a strong emphasis in project and general management, with opportunities to be employed in diverse growing sectors of activities such as in the sustainability area
- With my construction degree from DIT I find myself capable of fulfilling roles at a young age that traditionally required experience practitioners

Further Information

www.dit.ie/construction

School of Surveying & Construction Management

01 402 3911 (Garrett Keenghan)
01 402 3676 (Anne Marie Kelly)
surveying@dit.ie

Visit also our blog:

<http://deptofconstruction.blogspot.com>



Ireland's EU Structural Funds
Programmes 2007 - 2013
Co-funded by the Irish Government
and the European Union

COURSE CODE:

DT117

COURSE LENGTH:

4 YEARS

APPROX:

40 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

315

Module Listing

Year One

Construction Technology - Low Rise Buildings • Building Materials & Environmental Science • Land Surveying • Construction Mathematics • Construction Management • Self Development & Learning Skills • Graphics & Communication • Quantity Surveying • Land Surveying • Computers Graphics & Communication

Year Two

Setting out & Dimensional Control • Building Structures • Construction Management • Computer Aided Draughting • Professional Studies • Framed Structures • Maintenance & Conservation • Construction Safety Management • Financial Management for Construction • Estimating, Tendering & Measurement • Economics for Construction Managers

Year Three

Work Placement • Building Structures • Building Services • Construction Management • Quantity Surveying • Contract Administration • Legal Studies for Construction Managers

Year Four

Construction Management • Construction Project Finance • Construction Safety Management • Construction Planning • Sustainable Design & Building • Advanced Building Techniques • Commercial Management • Final Project

What are my... Career Opportunities?

Graduates from this programme have found careers in large and small companies and across a range of occupations in both the public and private sectors, including working in sustainability, conservation, information technology, project management, and with building contractors or sub-contracting firms as Estimators, Quantity Surveyors, Programmers, Planners, Contract Managers and Site Managers. Many have attained high level management positions in a wide range of areas and have gone on to become executive directors or managing directors.

*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?

Students have the opportunity to study in our Partner University in USA, Purdue University, or as an exchange student for one Semester.

Since the programme was developed to the status of Honours Degree in Construction (Management) and in line with the Bologna Agreement, students can apply for further postgraduate programmes abroad.



You might also be INTERESTED IN:

- Auctioneering, Valuation & Estate Agency - DT104 Pg 168
- Property Economics -DT110 Pg 160
- Quantity Surveying & Construction Economics - DT111 Pg 162
- Geomatics - DT112 Pg 146

SEIRBHÍSÍ LEICTREACHAIS & BAINISTÍOCHT FUINNIM

ELECTRICAL SERVICES & ENERGY MANAGEMENT

BSc Leibhéal 8 / Level 8

ENTRY REQUIREMENTS:

DIT Level 7 (Ordinary Degree) Bachelor of Engineering Technology in Sustainable Design in Electrical Services Engineering - DT010 (3-years) or an equivalent.

What is... Electrical Services & Energy Management?

Energy management is the process of monitoring, controlling and conserving energy in a building. With the introduction of the EU Directive on the Energy Performance of Buildings, there is a statutory obligation for all domestic, commercial and industrial buildings to comply. This programme aims to prepare graduates to meet the current engineering, energy and environmental challenges facing us on a national and international level. The programme will focus on building energy systems, energy assessment, energy policy, facilities management, renewable technologies, taking account of security of supply, competitiveness of our energy supply and the impact of climate change and CO2 emissions.

Learning Outcomes:

What will I Study?

This programme has been designed to build upon the energy, environment and management content of the level 7 degree in Electrical Services Engineering providing seamless and coherent progression for graduates from this programme. The programme will also be of interest to graduates from other disciplines wishing to advance their knowledge, skill and competence in the field of electrical services and energy management.



Further Information

www.dit.ie/electricelectronicengineering

School of Electrical & Electronic Engineering

- 01 402 4573 (Martin Barrett, Programme Chair)
- 01 402 4882 (Mr Keith Sunderland, Assistant Head)
- 01 402 4617 (Ms Frances Malone, Administration)

- martin.barrett@dit.ie
- keith.sunderland@dit.ie
- frances.malone@dit.ie

COURSE CODE:

DT712

COURSE LENGTH:

1 YEAR

APPROX.

40 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

ADVANCED ENTRY

Module Listing

Year Two

Semester 1

Research Methodologies and e-learning Techniques • Utilization of Electrical Energy • Energy Management • Data Acquisition, Analysis and Energy Modelling • Facilities Management and the Environment • Building Energy Assessment

Semester 2

Services Development and Management • Alternative Energy Systems • Energy Policy and Economics • Project/Dissertation

What are my... Career Opportunities?

Electrical Services Technicians enjoy a very varied, interesting and well paid work environment. There are so many aspects in which you can develop an interest and subsequently specialise. These can include: working in an electrical design office, for an electrical contractor, as engineering systems support in the manufacturing sector, perhaps in technical sales support, project management, or in the provision of industrial services. The work invariably involves both office based and site/location activity.

This programme is accredited by the Energy Institute as partially satisfying the education standard required for Chartered Engineer membership.

*For more career development options please see inside front cover

What other options do I have after completion?

This qualification will give graduates the opportunity of entering the Energy Industry which has been identified as one of the major growth areas in this century where there will be interesting and well paid jobs. Graduates of the BSc in Electrical Services and Energy Management may also pursue master's programmes within DIT and elsewhere in Higher Education.



You might also be INTERESTED IN:

- Electrical/Electronic Engineering - DT021 [Pg 142](#)
- Computer & Communications Engineering - DT081 [Pg 136](#)

INNEALTÓIREACHT LEICTREACH/LEICTREONAICE ELECTRICAL/ELECTRONIC ENGINEERING

BE Leibhéal 8 / Level 8

ENTRY TO YEAR TWO FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

LEAVING CERT ENTRY REQUIREMENTS YEAR ONE:

Minimum N° of		Minimum Grade in		Other Requirements
Subjects	Honours	Maths	English or Irish	
6	2	HC3#	OD3	# Or a grade C3 in Higher Level Applied Mathematics if combined with a minimum grade of D3 in Higher Level Mathematics. A good mathematical and analytical ability is required for all degree options.

What is... Electrical/Electronic Engineering?

This programme educates students to an honours level in electrical and electronic engineering and meets the educational standard required for chartered engineering membership of Engineers Ireland. The first two years of the programme are common core, with all students studying the same topics. Students study mathematics, physics, engineering design and business/management modules. Laboratory practicals and projects enable the student to apply his/her theoretical skills in a hands on and practical manner.

Learning Outcomes:

What will I Study?

Students select one major option from each of the following lists in third year:

A Major Options:

Electrical Power Engineering: analysis and design of modern power systems and associated plant.

Control Engineering: design and application of control and automated systems, including robotics.

Electrical Services Engineering: design and installation of electrical systems in modern buildings.

B Major Options:

Communications Engineering: advanced communications, including satellite and mobile systems of the future.

Computer Engineering: the programming and development of state-of-the-art computer systems.

Students undertake work placement from March to August during the third year of the programme. In the final year, students undertake a major engineering project in Semester 2.



Further Information

www.dit.ie/electricalelectronicengineering

School of Electrical and Electronic Engineering



01 402 2838 (Dr Michael Conlon, Assistant Head of School)



michael.conlon@dit.ie

COURSE CODE:

DT021

COURSE LENGTH:

3/4 YEARS

APPROX:

35 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

380

Module Listing

Year One

The programme is delivered in modular format across two semesters. All modules are compulsory and comprise;
Engineering Mathematics • Engineering Design Projects
• Technical Graphics • Physics • Chemistry • Mechanics
• Electrotechnology • Instrumentation for Engineers •
Engineering Professional Practice • Engineering Computing

Year Two

Mathematics Engineering Mechanics and Materials • Solid State Electronics • Electronic Systems • Control Engineering
• Computer Architectures • Regulatory Environment and the Engineer in Society • Signals and Systems • Electrical Energy Systems • Communication Networks

Year Three

Mathematics • Business and Management Studies •
Instrumentation and Measurements • Field and Circuit Theory
• Project Management • Digital Signal Processing • Work Placement. In addition, students study one module from the A Major Option List and one from the B Major Option List.

Year Four

Mathematics • Management • Marketing and Law •
Energy Resources and Thermodynamics • Digital Signal Processing • Engineering Project and one module from a list of possible option modules. In addition, students study two modules from the A Major Option List and two from the B Major Option List.

What are my... Career Opportunities?

Graduates generally start their careers as design, operation or production engineers and move on to become engineering team leaders on large projects such as building a wind farm, a sophisticated security system or a process control system.

Graduates of this programme work in a wide variety of fields associated with the areas of electrical and electronic engineering.

Alternatively, this programme is an ideal starting point for graduates who would like to build a research career in engineering.

*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.



You might also be INTERESTED IN:

- Computer & Communications Engineering - DT081 **Pg 136**
- Networking Technologies - DT080 **Pg 190**
- Sustainable Design In Electrical Services Engineering - DT010 **Pg 192**
- Electrical & Control Engineering- DT009 **Pg180**
- Electronics & Communications Engineering - DT008 **Pg 182**

INNEALTÓIREACHT (IONTRÁIL GHINEARÁLTA)

ENGINEERING (GENERAL ENTRY)

BE Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	HC3#	OD3

Other Requirements

Or a grade C3 in Higher Level Applied Mathematics if combined with a minimum grade of D3 in Higher Level Mathematics

A good mathematical and analytical ability is required for all degree options.

What is... Engineering?

Whether designing cars, bridges, building services, software or the electricity supply network for an entire country, all engineers share one crucial attribute - the ability to apply mathematical and engineering principles to solve real-world problems. This highly transferable skill leads engineering graduates into an astonishing variety of roles in industry, research and elsewhere. Students applying for Engineering at DIT **can now enrol on a common first year**, which facilitates access to the following degrees:

- DT021 Electrical / Electronic Engineering
- DT022 Mechanical Engineering
- DT023 Manufacturing & Design Engineering
- DT024 Structural Engineering
- DT026 Building Services Engineering (HVACR)
- DT027 Civil Engineering
- DT081 Computer & Communications Engineering

In addition to developing the fundamental problem-solving skills mentioned above, the common first year provides students with an understanding of the different disciplines through a series of multidisciplinary projects. At the end of the year students select their major discipline from the above list of degree programmes.

Learning Outcomes:

What will I Study?

This is the common first year of the programmes below and the final degree is taken in one of the following seven options:

- DT021 Electrical / Electronic Engineering
- DT022 Mechanical Engineering
- DT023 Manufacturing & Design Engineering
- DT024 Structural Engineering
- DT026 Building Services Engineering
- DT027 Civil Engineering
- DT081 Computer & Communications Engineering

All successful students will be offered a place on one of the second year programmes and generally will have free choice subject to places available.



Further Information

www.dit.ie/multidisciplinarytechnologies

School of Multidisciplinary Technologies



01 402 4014 (School Administrator: Ms Jane Cullen)
multidisciplinaryadm@dit.ie

COURSE CODE:

DT066

COURSE LENGTH:

1 YEAR

APPROX:

160 PLACES

LOCATIONS

**BOLTON ST
KEVIN ST**

POINTS 2015

380

Module Listing

Year One

The programme is delivered in modular format across two semesters. All modules are compulsory and comprise:

- Engineering Mathematics
- Engineering Design Projects
- Technical Graphics
- Physics
- Chemistry
- Mechanics
- Electrotechnology
- Instrumentation for Engineers
- Engineering Professional Practice
- Engineering Computing

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 Research Degrees in DIT and elsewhere in Higher Education. Presently DIT offers 17 wholetime Engineering Masters Degrees and Doctoral research student numbers in engineering is growing exponentially. Many of these research degrees are funded by external agencies.

What are my... Career Opportunities?

Building Services Engineering (HVACR)

Building Services Engineers (HVACR) are involved in the design, project management of installation and operational management of large engineering systems necessary for the energy efficient operation of modern buildings and industrial facilities. The systems include mechanical, electrical and electronic systems. Graduates may form part of a collaborative design team with structural and civil engineers, architects and surveyors.

Civil Engineering

Civil Engineering is concerned with the design, construction and maintenance of the physical infrastructure and services that are essential to our health, convenience and comfort. Graduates may form part of a team with other engineers, architects and surveyors.

Computer & Communications Engineering

This programme provides graduates with a wide range of professional career opportunities both in industry and in the wider economy. Initially, graduates may typically be expected to take up positions as communications, network, software or computer engineers.

Electrical / Electronic Engineering

Electrical and Electronic engineering covers a broad range of specialist engineering areas and leads to careers in a wide range of industries including computer engineering, and IT, advanced manufacturing, telecommunications, utilities and the renewable energy sector both in Ireland and internationally.

Manufacturing & Design Engineering

Manufacturing & Design Engineers solve society's design, innovation and product development challenges in a sustainable way. Almost everything that touches daily life is manufactured. Included are machinery design and manufacture, food processing and pharmaceutical, computer and electronics, automotive and aircraft, toys and textiles, plastics and chemical products, health and medicine.

Mechanical Engineering

Mechanical Engineers are concerned with the design, development, manufacture, operation and maintenance of machinery and equipment of many types, ranging in size from small components to complete manufacturing or process plants. They design, construct and operate machines such as engines, pumps, turbines, compressors. They are concerned with energy production from a variety of fuel sources, e.g. oil, coal, peat and gas.

Structural Engineering

Structural Engineers specialise in the analysis, design, construction and maintenance of buildings, bridges, towers and grandstands and other significant structures that support our living environment. Structural engineers take responsibility to ensure their designs satisfy design criteria, safety requirements, serviceability and performance to provide us the infrastructure to support our environment.

*For more career development options please see inside front cover

You might also be INTERESTED IN:

- Engineering (General Entry) - DT097 **Pg 184**

GEOMAITIC (SUIRBHÉIREACHT & LÉARSCÁILIÚ)

GEOMATICS (SURVEYING & MAPPING)

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Geomatics?

It is Geography brought to life! Another name for Geomatics is Geographic Science. Learn how to produce our maps and measure all sorts of objects and features on the land.

Locational (spatial) information must be collected, processed and managed to produce maps, construction drawings and models. The professional responsible for this is a Geomatics graduate. We model, analyse and manage information from many sources. This provides us with lots of exciting career opportunities at home and abroad. We use interesting cutting-edge technologies such as satellites, lasers, aerial cameras and advanced surveying and computing to collect and manage our data.

Learning Outcomes:

What will I Study?

Geomatics involves three fields of activity - Spatial Data Provision - measuring the land, Spatial Information Management & Land Management.

Spatial Data Provision involves the collection of data relating to the Earth (spatial data). Instruments such as GPS receivers, terrestrial airborne and spaceborne cameras and scanners, electronic distance and angle measuring instruments (total stations) and much more, are used to collect precise data which is then processed to create digital maps and 3D models of our landscape for development, monitoring and planning. We collect and apply these data on construction sites, on the land, offshore and underground to meet the needs of a range of users.

Spatial Information Management takes the collected data and generates optimised geographical information for a wide range of applications. This involves 3D modelling, computer visualisation, analysis in Geographic Information Systems (GIS) and delivery of the results and products to the client.

The third activity of Geomatics is Land Management. This deals with the four main national Land Administration systems - Land Value for Taxation, Land Tenure for Ownership of Property, Land Use for Planning, and Land Development for Construction and Conservation.

Further Information

www.dit.ie/geomatics

School of Surveying & Construction Management

01 402 3676
surveying@dit.ie



What our students say!

- I chose Geomatics as I wanted more choices than just working in an office. The lecturers are all enthusiastic and that enthusiasm is passed onto the graduates. I work in the Lidar department of Ordnance Survey Ireland (OSi). It's an incredible place to work, and it makes great use of the skills I developed in college. The work is very diverse from quarry and flood mapping to forestry and road alignment projects.
- I'm working in the GIS Department in the National Parks and Wildlife Service of the Department of Environment, Heritage and Local Government. My principal duty is map creation. I chose to study Geomatics for a number of reasons. There is a great balance between office and field work. The nature of the work allows you to be creative and artistic, as well as technical and precise. There is a large variety of specialised career paths available along with the possibility to travel and work in many parts of the world.

COURSE CODE:

DT112

COURSE LENGTH:

4 YEARS

APPROX:

35 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

315

Module Listing

Year One

Geodetic Surveying • Geo-Spatial Awareness • Mathematical Methods • Information Technology • Introduction to Spatial Planning • Professional Development

Year Two

Mathematical Methods • Information Technology • Geodetic Surveying • Land Management • Geographic Information Science • Remote Sensing – Mapping from the air

Year Three

Mathematical Methods • Information Technology • Geodetic Surveying • Land Management • Remote Sensing – Mapping from the air • Geographic Information Science • Professional Development • Work Placement

Year Four

Professional Development • Geodetic Surveying • Land Management • Geographic Information Science • Remote Sensing – Mapping from the air • Spatial Information Applications • Dissertation (on individual research project)

What are my... Career Opportunities?

Go to the link below to view an animation on the careers available to the geomatics graduate. www.dit.ie/geomatics

Employment of graduates is very high at home and abroad. **Professional Recognition:** The BSc (Hons) degree is accredited by the Society of Chartered Surveyors (SCS), the Irish Institution of Surveyors (IIS) and the Institution of Civil Engineering Surveyors (ICES). Graduates can become professional members and chartered surveyors.

*For more career development options please see inside front cover

What other options do I have after completion?

As a geomatics graduate you are eligible to apply to any university for a wide range of Masters and other research level programmes.

Are there study abroad options?

The Department has links with several European universities under the Erasmus/Socrates programmes. This facilitates the exchange of staff and students for study and research abroad.



You might also be INTERESTED IN:

- Planning & Environment Management - DT106 Pg 156

INNEALTÓIREACHT DÉANTUSAÍOCHTA & DEARADH MANUFACTURING & DESIGN ENGINEERING

BE Leibhéal 8 / Level 8

ENTRY TO YEAR TWO FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

LEAVING CERT ENTRY REQUIREMENTS YEAR ONE:

Other Requirements

At least Ordinary level D3 in one of: Physics, Chemistry, Physics and Chemistry, Biology, Agricultural Science, Technical Drawing, Applied Mathematics, Construction Studies, Engineering or Design & Communication Graphics.
Or Grade C3 in Higher Level Applied Mathematics if combined with a minimum grade of D3 in Higher Level Mathematics.
A good mathematical and analytical ability is required for all degree options.

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	HC3#	OD3

What is... Manufacturing & Design Engineering?

Almost everything we touch in daily life is designed and manufactured. The fundamentals of the Manufacturing & Design Engineering discipline are manufacturing technology, design for manufacture combined with business and enterprise management.

Of the many disciplines in engineering and technology, Manufacturing & Design Engineers have the vital task of solving society's innovation and production tasks. Manufacturing & Design Engineers are involved in the design of the product and the efficient management of resources and technology to produce quality goods and services for society. A key role for Manufacturing & Design Engineers in advancing the knowledge economy will be to develop more innovative products resulting in a high value-added manufacturing sector. Manufacturing & Design Engineers have skills and knowledge which can be applied across a broad spectrum of the engineering sector. Check out: www.youtube.com/watch?v=Kqq5_9T8mLI

Learning Outcomes:

What will I Study?

The Manufacturing and Design Engineering programme aims to provide graduates with the appropriate mix of technical, managerial and communication skills, in order to equip them for a wide range of careers within a broad spectrum of industries. The programme is designed to provide the graduate with a full understanding of the structure and operation of a manufacturing enterprise and equip them with relevant planning and simulation tools to help make cost effective decisions. It aims to give an appreciation of the need for competitiveness in manufacturing industry. It will provide the learner with well-developed team working skills as well as strong innovation and entrepreneurial skills. It also aims to produce environmentally responsible engineers, who will conduct manufacturing activities with due regard to the environment and the relevant regulatory and legal requirements.



What our Students say!

- Graduate & Winner of Best Manufacturing Engineering Project Award.

Upon graduation I immediately took up a position as a process engineer in an automation company in Co. Cavan, Ualio Ltd, who specialise in electrical and automation solutions for industrial plants. My role within the company included designing and wiring panels, electrical drawings and programming of automated equipment.

I have now taken up a position working as a design engineer with Combillift in Co. Monaghan who specialise in the manufacture of forklifts. The Manufacturing and Design Engineering programme gave me a great standing for the tasks required in such a demanding industry. Overall the programme gives a great insight into all areas of the manufacturing industry and with the mixture of design, practical, business, and the addition of such a rewarding and professional project as the Formula Student makes graduates prime candidates for any company in the manufacturing field.

Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering



01 402 3846 (David Kennedy – Assistant Head of School)
01 402 3824 (Mr. Gerry Woods - Programme Chair)
01 402 3626 (School Administrator)



david.kennedy@dit.ie
gerry.woods@dit.ie

COURSE CODE:

DT023

COURSE LENGTH:

3 YEARS

APPROX:

25 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

380

Module Listing

Year One

The programme is delivered in modular format across two semesters. All modules are compulsory and comprise;
Engineering Mathematics • Engineering Design Projects
• Technical Graphics • Physics • Chemistry • Mechanics
• Electrotechnology • Instrumentation for Engineers •
Engineering Professional Practice • Engineering Computing

Year Two

Engineering Mathematics • Manufacturing Engineering •
Computing • Manufacturing Automation • Engineering
Economics & Management • Fluid Mechanics • Mechanics
• Thermodynamics • Engineering Materials • Electro-
Mechanical Engineering • Engineering Design • Computer
Aided Design

Year Three

Engineering Mathematics • Professional Development
• Tool Design & Metal Forming • Mechanical Systems
Design • Quality & Reliability • Engineering Design Projects
• Thermofluids • Manufacturing Systems • Manufacturing
Engineering • Design & Teambuilding Project • Materials
Properties & Processing • Control Engineering

Year Four

Quality & Reliability • Engineering Materials • Advanced
Design & Machining • Industrial Networks & Automation
• Professional Development • Medical Devices • Micro &
Nano Manufacture • Design & Manufacture • Projects •
Operations Management

* A Major project is undertaken over the two final semesters. As part of this project students have the opportunity to become involved in the formula student competition which is to design and build a race car and compete against other Universities in Silverstone UK.

What are my... Career Opportunities?

Career opportunities are excellent. In recent years all of the graduates gained excellent opportunities or engaged in research work. The industrial links with the final year project work and the formula student team project have received very positive reviews from industry. Graduates have gained employment in technical/design roles in the automotive, electronics, medical devices, pharmaceuticals and food industries. Companies such as HP, Intel, Braun, Siemens, Dromone, JCB and DAF. Many progress quickly into technical management roles with high salaries.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who achieve the appropriate level have the option of continued study for an ME in Manufacturing Management & innovation. Alternatively they may complete a PhD by research.

Are there study abroad options?

Students may have the opportunity to study abroad under the Erasmus exchange programme.

In third year students will have the opportunity to attend a design workshop in Lucerne Switzerland.

You might also be INTERESTED IN:

- Automation Engineering - DT003 Pg 170

INNEALTÓIREACHT MHEICNIÚIL MECHANICAL ENGINEERING

BE Leibhéal 8 / Level 8

FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

ENTRY REQUIREMENTS:

Successful completion of DT066

What is... Mechanical Engineering?

Mechanical Engineering is one of the oldest, most broad-ranging and versatile engineering disciplines, covering all industry and many research sectors including: Power Generation, Aerospace, Engine Design, Pharmaceutical Processing, Biomedical Device Design, Renewable Energy Design, Transportation, and many more.

Mechanical Engineering is all about using science, mathematics and technology to find better ways of making mechanical and electro-mechanical things work. This may be designing electric vehicles to reduce pollution, designing enabling devices for people with a disability or improving the design of a wind turbine to catch the wind more efficiently, and doing all this in a sustainable, ethical and professional manner.

What our Students say!

- The Honours Mechanical Engineering Degree at DIT provided me with a wide array of theoretical knowledge, hands on experience and the necessary support whenever I needed it. In particular, I believe the degree's strong emphasis on the more practical, industry-oriented aspects of engineering was instrumental in me finding a position in my chosen profession during this difficult economic period. I would strongly recommend that anyone looking to pursue a career in Mechanical Engineering consider studying at DIT.
- The programme has equipped me with many useful skills. I found that my communications skills and my ability to work under my own initiative as well as part of a team have developed significantly as a result of completing this programme. The practical approach undertaken in this programme has enabled me to understand key aspects of mechanical engineering in a novel and engaging manner. The staff were particularly supportive throughout the duration of the programme. It has been an enjoyable, worthwhile degree that I would highly recommend.

Learning Outcomes:

What will I Study?

The classroom and practical activities of this high quality Mechanical Engineering programme provide useful skills, knowledge and competencies which can be applied in many fields of industry and research. These activities include an excellent foundation in engineering science and mathematics, advanced design theory and practice, high quality project work and practical workshop/laboratory hands-on skills, but to name a few. All of these activities are supported by dedicated, experienced and supportive DIT staff.

Graduates of the programme will be able to:

- Identify and define a mechanical engineering challenge, formulate and analyse effective and sustainable solutions, and subsequently implement the most appropriate solution.
- Design mechanical and mechanical related systems, components and processes to meet specific operating requirements.
- Utilise knowledge of fundamental science, mathematics, engineering science and technology, in tandem with a thorough knowledge of the mechanical engineering sciences to derive, develop and apply solutions to mechanical engineering and related challenges.
- Communicate effectively within the engineering community, professional environment and society in general.
- Identify and act upon their ethical responsibility, as members of the engineering profession, in all aspects of their professional practice.
- Conduct advanced mechanical engineering research involving the analysis and interpretation of research data for the attainment of useful empirical and scientific engineering knowledge.
- Sustain learning and educating within the mechanical engineering and related professional areas.
- Practice as a professional mechanical engineer on an individual basis, within team-based frameworks and as a contributor to multidisciplinary settings.
- The Mechanical Engineering Department at DIT has over 55 years of experience in delivering high quality programmes and continues to revise and expand its programmes by the introduction of advanced and modern technological content.

Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering

- 01 402 2904 (Gerard Nagle)
- 01 402 3932 (Ms. Susan Doyle)

COURSE CODE:

DT022

COURSE LENGTH:

3 YEARS

APPROX:

30 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

(SEE DT066)

Module Listing

Year Two

Engineering Mathematics • Thermodynamics • Mechanics • Electro-Mechanical Engineering • Engineering Materials • Engineering Economics & Management • Engineering Computing • Fluid Mechanics • Engineering Drawing & Design • Manufacturing Automation • Manufacturing Engineering • Statistics

Year Three

Engineering Mathematics • Computer Modelling • Electrical & Electronic Engineering • Fluid Mechanics • Mechanics of Materials • Engineering Design • Professional Development • Applied Thermodynamics • Mechanics of Machines • Control Engineering • Materials Properties & Processes

Year Four

Capstone Project (year long) • Engineering Mathematics • Computer Modelling • Engineering Management • Control Engineering • Heat Transfer • Fluid Mechanics • Mechanics of Machines • Energy Systems • Mechanics of Materials



What are my... Career Opportunities?

New graduates may expect many career opportunities in mechanical, manufacturing and process engineering industries and some research areas, both within Ireland and worldwide. Local, national and multi-national companies find graduates of this programme get up to speed rapidly and many of these graduates progress to the highest levels of engineering and management because of their practical engineering abilities, sound technical and scientific knowledge and high quality communication skills. Employers are also attracted by the Chartered Engineer connection with this programme.

Chartered Engineer status: This programme is accredited by Engineers Ireland and graduates can become members of Engineers Ireland. Following further studies and work experience, graduates may apply for Chartered Engineer (C.Eng.)

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates may choose a Master's or Doctoral Degree in a Mechanical Engineering area at DIT or elsewhere. Due to the high-calibre of this qualification, third-level institutes in Ireland and abroad are readily interested in postgraduate applications from these graduates.

Many graduates choose to redirect their career towards consultancy, project-management, engineering education or entrepreneurship after some years of industry experience.

Are there study abroad options?

Students engaged in this programme have travelled to the U.S. and within Europe to study as part of this programme.

You might also be INTERESTED IN:

- Mechanical Engineering - DT006 **Pg 188**

NUÁIL i bhFEISTÍ LEIGHIS

MEDICAL DEVICE INNOVATION

BSc Leibhéal 8 / Level 8

ENTRY REQUIREMENTS:

Minimum NFQ Level 7 Degree in an Engineering or cognate Scientific discipline or equivalent. Candidates without relevant CAD background may, as a condition of entry, be required to undertake a support CAD module.

What is... Medical Device Innovation?

Medical Devices encompasses all products, except medicines, used in healthcare for the diagnosis, prevention, monitoring or treatment of illness or disability. Examples include contact lenses, orthopaedic joint replacement, programmable pacemakers, stents, ventilators and laser surgical devices. The medical technology industry in Ireland is changing from being predominantly manufacturing based to becoming increasingly complex, value added and driven by R&D. It now involves the extensive collaboration of a broad range of partners, including research institutions, clinicians, manufacturing companies and government agencies.

Learning Outcomes:

What will I Study?

The Programme is designed to provide students with a range of knowledge and skills for employment in a medical device environment. The medical device industry provides graduate opportunities in design, manufacturing, technical services, customer support and a range of other services that add value to the sector. The programme was formulated with industry input in response to a number of recommendations highlighted in the March 2008 Forfás Report on the Future Skills Needs of the Irish Medical Devices Sector. The programme specifically addresses the need to upskill scientists, engineers and technologists and the provision of professional development within this sector.



What our Students say!

- Ciarán Carney: "Graduating from the Medical Device Innovation course has provided me with the knowledge and skills required for the medical device industry. With lectures from a range of disciplines including 3D CAD, anatomy, biomechanics and medical device regulations, this programme has opened the doors to a multitude of career opportunities in this every expanding industry."
- Tim Jones: "I started the degree in medical device innovation not knowing what to expect. I found myself quickly getting drawn into the world of medical devices and wanting to find out more and more. With a focus on teamwork and personal development, the modules were extremely interesting and complemented each other. I'm now looking forward to my new career in the medical device sector!"

Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering



01 402 3952 (Dr. Graham Gavin - Programme Chair)



01 402 3832 (Mr. Mark McGrath - Dept Head)



graham.gavin@dit.ie



mark.mcgrath@dit.ie

COURSE CODE:

DT710

COURSE LENGTH:

1 YEAR

APPROX:

32 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

ADVANCED ENTRY

Module Listing

Year Two

Semester 1: Anatomy & Physiology • Basic Principles of Medical Device Technology • Computer-Aided Design Analysis • Applied Biomaterials • Lean/ Six Sigma • Innovation/ Project Management

Semester 2: Medical Device Design & Analysis • Medical Device Manufacturing • Validation & Regulatory Affairs • Team Design Project

What are my... Career Opportunities?

Based on growth patterns in the sector, career opportunities are very positive. In Ireland, 140 medical technology companies employ 25,000 people, exporting €6.2b worth of products annually. Medical device products represent almost 10% of Ireland's exports and prospects for growth of the industry are good. Graduates may also pursue career in the pharmaceutical sector.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level in final examinations may progress to Masters programmes in DIT or elsewhere in Higher Education.



FEIDHMCHLÁIR & SEIRBHÍSÍ LÍONRAITHE NETWORKING APPLICATIONS & SERVICES

BSc Leibhéal 8 / Level 8

ENTRY REQUIREMENTS:

Minimum NFQ Level 7 (Ordinary Degree) in a computer networking (e.g. DT080 – Networking Technologies) or engineering (e.g. DT008 – Electronics & Communications Engineering) or cognate scientific discipline or equivalent.

What is... Networking Applications & Services?

This is a one-year, NFQ (National Framework of Qualifications) Level-8, honours degree programme leading to the award of Bachelor of Science (Honours) in Networking Applications & Services of the Dublin Institute of Technology. Graduates of this programme will be key players in IT (information technology) and communications network management teams. The programme provides a solid grounding in the principles of network security and distributed systems, mobile applications, system administration, software development, and M2M (Machine-to-Machine) technology, together with knowledge of management, marketing and law. A significant technical project will complement students' academic learning outcomes and ensure that on graduation they can immediately apply their skills.

Learning Outcomes:

What will I Study?

The modules of the programme rely heavily on computer programming skills, with one module devoted entirely to developing skills in this area, including an examination of Object-Oriented (OO) programming and design techniques. Students will have the opportunity to build mobile applications for iOS, Android, Windows Phone and BlackBerry, and to learn how to deploy them in the market place. Students will also learn to install and configure a range of internet server applications such as a Web server and a mail server. They will study the principles of cryptography and network security, the architecture, algorithms and designs upon which modern distributed systems are based, and the interconnection of systems that employ microcontrollers. Students will learn of the lifecycle of production and delivery and the benefits of adhering to the 7 principles of Universal Design. Finally, a project will provide a challenging practical opportunity to demonstrate students' assimilation and integration of technical knowledge, analytical competence, aptitude for problem-solving, design creativity, organizational ability, awareness of commercial factors, and interpersonal and communication skills.



Further Information

www.dit.ie/electricelectronicengineering

School of Electrical & Electronic Engineering

01 402 4801 (Joseph Kellegher)
joseph.kellegher@dit.ie

COURSE CODE:

DT080B

COURSE LENGTH:

1 YEAR

APPROX:

TBC

LOCATION

KEVIN ST

POINTS 2015

ADVANCED ENTRY

Module Listing

Year One

Software Development • Mobile Applications • Embedded Systems Connectivity • Universal Design and Assistive ICT • Management, Marketing and Law • Open Source Software in the Enterprise • Network & Wireless Security Principles • Distributed Systems • Project

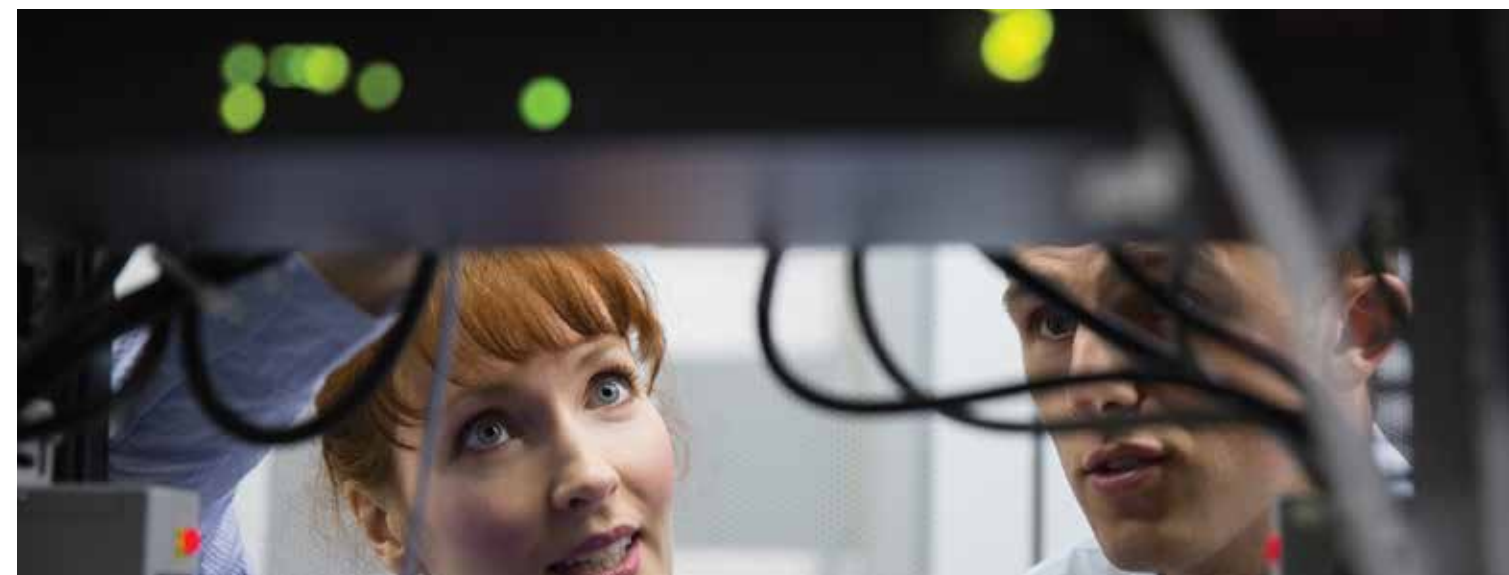
What are my... Career Opportunities?

The Expert Group on Future Skills Needs (EGFSN)/Forfás report for 2013 has identified an increasing demand in the ICT (Information and Communication Technologies) sector for highly skilled professionals, particularly at NFQ Level 8. Every industry now requires professionals with IT skills, so whether you work in a dedicated ICT company or the IT department of a company in another industry, career opportunities are many and varied.

*For more career development options please see inside front cover

What other options do I have after completion?

As with any student holding a level 8 degree, opportunities exist nationally and internationally for progression to higher levels of study and post-graduate research



PLEANÁIL & BAINISTÍOCHT COMHSHAOIL PLANNING & ENVIRONMENTAL MANAGEMENT

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2		OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Planning & Environmental Management?

Why are some cities better to live in than others? What makes a natural environment outstanding and, in a word, sustainable? This programme prepares individuals to be decision makers and leaders in planning our urban and rural environments and managers of our scarce natural resources.

Learning Outcomes:

What will I Study?

Students take all subjects in Year 1 and in Year 2 choose options from the Spatial Planning or Environmental Management areas and fully specialise in Year 4. Projects and fieldwork, under the supervision of practising professionals, are an integral part of the programme and in Year 3 there is a field trip to another EU state. (Students need to make financial allowance for this). The programme also includes an optional practice placement in Year 4 of the programme, which will count against final marks.

This innovative programme combines both natural and social science perspectives and leads to an honours degree. Students learn about interpreting scientific, technical and design data and applying this to the formulation, implementation and evaluation of policies in the specialist areas of planning and environmental management.

Spatial Planning graduates will be able to prepare complex development plans, carry out sensitive environmental assessments and work with communities and developers to resolve difficult planning issues.

Environmental Management graduates will be equipped to formulate and implement policies and programmes for the sustainable management of organisations, carry out environmental audits, prepare and implement plans for waste and resource management, and prepare and evaluate environmental impact and risk assessment.



What our Students say!

- On a personal note, I can honestly say that this field of study is one of the most interesting, educational and relevant to today's world. I have learned an incredible amount in my four years about our country and the rest of the world. I have loved every moment in DIT and will leave with some great memories and some equally good friends. I highly recommend spatial planning and DIT to anybody.
- The best thing about doing this course is that you are taught by professionals with vast experience in the sector, who work in it, and so you are being kept up to date with what is relevant.
- The numerous field visits give you a first-hand understanding of how things work and some of the interesting places which you will visit include large factories, waste sites, professional offices and nature parks.

Further Information

www.dit.ie/spatialplanningtransportengineering

School of Spatial Planning & Transport Engineering

- 01 402 3745 (Mr Hendrick van der Kamp)
- 01 402 3709 (Mr Conor Norton)
- 01 402 3605 (Ms. Orla Hosford, School Office)

- henk.vanderkamp@dit.ie
- conor.norton@dit.ie
- orla.hosfor@dit.ie

COURSE CODE:

DT106

COURSE LENGTH:

4 YEARS

APPROX:

35 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

280

Module Listing

Year One

Geo – Spatial Awareness • Introduction to Environmental Management • Introduction to Spatial Planning • Built Environment • Data Management • Project – Settlement Analysis • Project – Layouts • Earth Sciences 1 – Chemistry • Environmental Science 1 – Biology • Society and Environment

Year Two (Core Modules)

Social Research Methods • Introduction to Economics • Public Administration & Law • Earth Sciences II – Habitats

Year Three (Core Modules)

Buildings & Infrastructure • Environmental Assessment • European Context • Society & Governance

Year Four (Core Modules)

Professional Practice • Dissertation
Spatial Planning Modules: Collaborative Planning • Master Planning • Development Management II • Project – Individual Spatial Plan • Regional/National Planning
Environmental Management Modules: Environmental Auditing • Environmental Licensing • Project – Licensing • Rural Management Plans • Project – Environmental Assessment

What are my... Career Opportunities?

Many Spatial Planning graduates specialise in urban design, retail, property development, transport or other specialist areas. Graduates of the programme may find employment in government agencies, local authorities, with industry or in private practice.

Environmental Management graduates may find employment in industry, environmental management consultancies, state agencies or local authorities on environmental management audits, waste management, environmental impact assessments and conservation management.

The Spatial Planning programme is currently accredited by the Irish Planning Institute and recognised by the Society of Chartered Surveyors in Ireland. It is expected that the Programme will also be accredited by the Royal Town Planning Institute in the 2014/2015 academic year.

It is also expected that the Environmental Management Programme will be accredited by the Institute of Environmental Management and Assessment in the 2014/2015 academic year.

*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 have access to a range of Post Graduate Degrees in DIT and elsewhere in Higher Education at Universities in Ireland, Europe and further afield.

Are there study abroad options?

During the Programme there are opportunities to study abroad through the ERASMUS Programme. It is possible to spend one or two semesters abroad in either the second or third year of the DT106 Programme. The Department have a number of bilateral agreements with other Third Level Institutions which include Hamburg (Germany), Dundee (Scotland) and Tampere (Finland).

You might also be INTERESTED IN:

- Architecture - DT101 **Pg 128**
- Architectural Technology - DT175 **Pg 130**
- Civil Engineering - DT027 **Pg 134**
- Geomatics - DT112 **Pg 146**
- Property Economics - DT110 **Pg 160**

DEARADH TÁIRGÍ PRODUCT DESIGN

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Product Design?

The ever-increasing requirement by industry, commerce, retail and domestic markets for new products of all varieties has resulted in a thriving industry for businesses in the area of product design. Dublin Institute of Technology has developed this programme in response to market demand to produce graduates with the necessary theoretical knowledge and practical skills to work in today's demanding design fields.

The role of the product designer is to oversee the complete development cycle of a product in industry. Graduates will be capable of applying engineering principles in order to evolve a product's development cycle from initial concepts to manufacturing stage.

Learning Outcomes:

What will I Study?

During the course of the programme you will study how the creative aspect of design as developed in Creative Design Fundamentals and various Design Innovation Studios modules integrate with the manufacturing potential of your design supported by modules such as Manufacture and Materials through to analysis of your design as taught in Design Analysis. The technologies involved in bringing a concept to market will be outlined and planned in modules such as Economics, Marketing and Legal Aspects of Product Design. You will be supported by modules such as New Product Introduction and Business Process Management when you enter both National and International competitions. Your final year project will allow you to bring all these various areas together in order to propose, conceptualise, design and develop your ideas to a professional and industrial standard.



What our Students say!

- The trilogy of knowledge this course offers including Engineering, Business and Creative Design is fundamental to producing an exceptional product designer and even an entrepreneur.
- After graduating from Product Design there were many job possibilities available to me. The area that I chose to look for work in was medical devices. The Product Design course enabled me to explore this line of work because as part of the curriculum there was a semester of classes that introduced the medical device industry and much of what I learnt is used daily in my job. Most of the work I do involves working closely with small groups of people, leading brainstorm sessions, using and developing new technologies. These are all skills that I learnt from Product Design at DIT.

Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering



01 402 3845 (Michael Ring, Programme Leader)
01 402 3843 (William Bergin, Head of Department)
01 402 3626 (Maeve Coyne, Secretary)



michael.ring@dit.ie
william.bergin@dit.ie

COURSE CODE:

DT001

COURSE LENGTH:

4 YEARS

APPROX:

40 PLACES

LOCATIONS

**AUNGIER ST
BOLTON ST
GRANGEGORMAN**

POINTS 2015

415

Module Listing

Year One

Science • Creative Design Fundamentals • Design History • Economics • Marketing • Communications • Manufacture and Materials • Computer Applications • Marketing • CAD and Drawing • Communications • Economics • Mathematics

Year Two

Management and Strategy • Applied Creativity in Design • Design Innovation • Virtual Modelling • Modelmaking and Rendering • Mathematics • Applied Innovation in Design • Science • Product Visualisation • Rapid Product Development • Design Tools and Technology • Marketing Research

Year Three

Enterprise Development / Business Process Management • Creative Design Studio • Design and Manufacturing Methods • Design for Tooling and Manufacture • Design Theory • New Product Introduction • Product Development Studio • Legal Aspects of Product Design • Design Analysis Electro Technology

Year Four

Integrated Design • Time Compression Technologies • Applied Design Medical/Automotive • Design Innovation Research • Design Innovation Conceptualisation • Final Year Project • Marketing Case Studies • Professional Practice

What are my... Career Opportunities?

Product Design offers a career which can be utilized in a broad array of industries. Every product moves through a development cycle, which some professions will have contact with as the design develops but the product designer oversees the complete development cycle.

From the electronic industry to the automotive, medical and aero industries, the product designer contributes his skill and expertise in helping to develop and drive these areas.

Those who qualify with a BSc(Product Design) Degree are eligible for full membership of the Institution of Engineering Designers.

*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?

An International exchange programme exists with Hong Kong Polytechnic University, San Francisco State University in the USA and Canberra University in Australia. Along with these, there are many exchange opportunities with Universities throughout the European Union through the ERASMUS program.

You might also be INTERESTED IN:

- Manufacturing & Design Engineering - DT027 Pg 148

EACNAMAÍOCHT RÉADMHAOINE PROPERTY ECONOMICS

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:
BBSAX/5M2468 Business Admin
BBSXX/5M2102 Business Studies

FIVE DISTINCTIONS

What is... Property Economics?

'Despite the current economic climate, well-educated property professionals are in demand. However, we are worried whether there will be sufficient graduates coming out of the system in a few years-time'. **James Nugent - Managing Director, Lisney.**

The Property Economics course educates students for professional careers in commercial property investment and development i.e. retail (shopping), office and industrial. Graduates can work in valuation surveying, real estate, property investment and management, auctioneering and estate agency in Ireland and abroad. It is also suitable for those interested in property development, town planning and the general investment market.

Learning Outcomes:

What will I Study?

The programme seeks to progressively develop and integrate the various core and complementary disciplines required for the professional education of a property economist or a property asset manager.

It particularly emphasises Property Valuations, which together with the other core modules of Economics, Planning and Investment Analysis gives the Property Economics programme its orientation. For the Property Asset Management & Valuation option in final year, the emphasis is changed somewhat to concentrate on property Asset Management, Housing Studies and Valuation.

Property Valuation is a skill based on the application of economic and financial evaluation techniques to land and buildings. This skill requires a broad knowledge of a wide range of subjects, and an understanding of the economic, physical and legal framework within which buildings are used and the property market operates. Thus, the programme is generalist in the sense that its scope is wide but specific in that it seeks to apply knowledge to a particular sector of the economy. The educational approach seeks to develop in the student the ability to evaluate and integrate information from diverse sources to arrive at a conclusion. This is a distinctive characteristic skill of the valuer.

In addition, the possession of wider business management and financial analysis skills is becoming an increasingly important requirement for property valuers and property asset managers who wish to develop their careers in the changing circumstances of private practice, in commercial organisations or in the public service. Consequently, this need is reflected in curriculum content and in the detailed study of the workings of the wider investment markets of which the property market forms part.

Alternatively with the Property Asset Management & Valuation option in final year, the focus is on property as an asset and how it can be used to benefit its owners, users and the general public.

COURSE CODE:

DT110

COURSE LENGTH:

4 YEARS

APPROX:

35 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

330

Module Listing

Year One

Valuations • Law • Economics • Construction Studies
• Surveying & Cartography • Financial Management •
Quantitative Methods • Financial & Statistical Mathematics
• Professional Development / Integrated Project •
Information Technology

Year Two

Valuations • Law • Construction Studies • Planning •
Economics for Property • Quantitative Analysis • Property
Management & Marketing

Year Three

Valuations • Urban Economics • Building • Planning
• Investment Analysis • Property Taxation • Research
Methods & Proposal Writing
During this year students undertake a major Integrating
Project on urban renewal/development and also an
Investment Analysis Project

Year Four

Valuations • Asset & Company Valuations • Investment,
Valuation & Taxation • Urban Economics • Architecture
& Urban Sociology • Planning • Property Finance &
Investment
In the fourth year each Investment & Valuation Surveying
student prepares a major dissertation as part of the final
examination.
Those choosing the Property Asset Management option take
modules in • Housing • Project Management • Shopping
Centre Management • Asset Management and an Individual
Case Study

What are my... Career Opportunities?

Graduates are principally employed by property consultancy firms, such as Lisney, Savills, Jones Lang Lasalle, DTZ Sherry Fitzgerald and CBRE. They also find work with auctioneers & estate agencies, property development companies, local authorities and major property owning companies, both public and private such as the ESB, the Bank of Ireland, HSE and Irish Life in the area of property and asset management.

The skills you will obtain on the course are not just valued in the property and construction industries, but can be used to establish careers in business, accountancy, banking, law, marketing, investments etc. as well as their target industries.

The BSc (Hons) degree is accredited by the Society of Chartered Surveyors in Ireland (SCSI) and also by the Royal Institution of Chartered Surveyors (RICS). This accreditation is recognised internationally and means that graduates of the course can and do obtain employment throughout the world.

*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?

Students have the opportunity to study abroad for a semester on Erasmus Exchange in Hanze University in Groningen, Holland and also to participate in the European Challenge Competition in Berlin. In addition, as part of the Integrated Project in third year, there is usually a field trip outside Ireland.

Further Information

www.dit.ie/surveyingconstructionmanagement

School of Surveying & Construction Management

01 402 3675 (Mr Martin Hanratty)
martin.hanratty@dit.ie

You might also be INTERESTED IN:

- Auctioneering, Valuation & Estate Agency - DT104 **Pg 168**
- Planning & Environmental Management - DT106 **Pg 156**

SUIRBHÉIREACHT CHAINNÍOCHTA & EACNAMAÍOCHT FOIRGNÍOCHTA QUANTITY SURVEYING & CONSTRUCTION ECONOMICS

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

ONE OF THE FOLLOWING AWARDS:
CCONT / SM5010 Construction Technology

FIVE DISTINCTIONS

What is... Quantity Surveying & Construction Economics?

This programme prepares students for a career in the construction industry. It is designed for those who wish to work as quantity surveyors and economic advisors/managers in the construction industry or as building development co-ordinators and managers.

Quantity Surveyors are engaged in private practice as partners or employees in professional firms. They may also work for building/civil engineering contractors or sub-contractors. In addition there are Quantity Surveyors employed in government departments, semi-state bodies and public authorities.

Learning Outcomes:

What will I Study?

Students will gain a detailed knowledge and understanding of the framework within which the construction industry operates, namely the technical, economic, legal, financial, managerial and administrative framework. They will also have gained a detailed knowledge and understanding of the specialised areas of cost and value management, tender documentation, procurement, construction administration and management. They will have gained the ability to manage their own learning, in order that they may act in their employment in variable and unfamiliar contexts, and to do so with a clear understanding of the professional and ethical issues involved.



What our Students say!

- Anna-Claire Fagan completed the course in June 2012. She is currently employed by KSN Quantity Surveyors in Dublin. - "This course hosts such a wide range of opportunities. It provides a broad knowledge of the construction industry and the economic world around us. I am currently working for KSN Quantity Surveyors and this course prepared and provided me with the skills required by the industry. Above all, the small class sizes and approachable lecturers in DIT are a massive advantage to the students."

Further Information

www.dit.ie/surveyingconstructionmanagement

School of Surveying & Construction Management

01 402 3873 (Dr. Alan Hore)
alan.hore@dit.ie

COURSE CODE:

DT111

COURSE LENGTH:

4 YEARS

APPROX:

40 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

330

Module Listing

Year One

Construction Studies • Measurement & Costing • Financial Management • Economics • Construction Law • Information Technology • Quantitative Methods • Professional Development/Integrated Project • Foundation German (Option)

Year Two

Construction Studies • Measurement & Costing • Financial Management • Construction Law • Construction Management • Programming & Planning • Pre-contract Practice • Post contract Practice • German (Optional) • German for Engineering & the Built Environment (Optional)

Year Three

Construction Studies • Construction Economics • Financial Management • Construction Law • Development Project • German for Engineering and Built Environment (Optional) • Work Placement

Year Four

Commercial Management • Construction Economics • Measurement & Costing • Construction Administration & Management • Applied Cost & Value Management • Strategic Management & Ethics (Optional) • Conflict Avoidance & Dispute Resolution (Optional) • Project Management (Optional) • Corporate Property Asset Management (Optional) • Dissertation or Company Project

For detailed look at modules please access at the DIT Catalogue

What are my... Career Opportunities?

Job titles may include quantity surveyor, construction cost consultant or commercial manager. While the name may vary, the job is the same.

Graduates normally enter the job market as a Graduate Quantity Surveyors who can work for general contractors, subcontractors, private practice consultants, local authorities or any employer that manages costs that are related to new building, civil engineering project, mechanical and electrical installations, oil or gas industry or refurbishment projects.

The common theme is that they seek to minimise costs while creating quality projects. Graduates of this programme are very versatile with transferrable skills who can enter into a variety of complimentary careers, such as, loss adjusting, legal profession, project management and property management to name a few.

*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.

"Despite the downturn in the economy, opportunities for graduates of this programme are very bright with employers recruiting graduates at a steady pace over the past few years."

Those who choose to enrol on this programme now, will be ideally placed to enter a profession during a period of recovery and bring their skills to work in a changing market."

Graduate Employment Trends in Construction and Property Surveying
The Society of Chartered Surveyors Ireland 2012

You might also be INTERESTED IN:

- Auctioneering, Valuation & Estate Agency - DT104 Pg 168
- Geomatics - DT112 Pg 146
- Planning & Environmental Management - DT106 Pg 156
- Property Economics - DT110 Pg 160

INNEALTÓIREACHT STRUCHTÚR STRUCTURAL ENGINEERING

BE Leibhéal 8 / Level 8

FOLLOWING ENGINEERING (GENERAL ENTRY) - DT066

ENTRY REQUIREMENTS:

Successful completion of DT066

What is...Structural Engineering?

Structural Engineering is a specialisation of Civil Engineering. Structural Engineers are concerned with the design and construction of buildings, bridges and special structures. They form part of the team of professionals involved with construction projects and in this way work closely with Architects, Quantity Surveyors and Building Services Engineers.

Learning Outcomes:

What will I Study?

Students enter the common second year of Structural Engineering following the completion of Engineering (General Entry) - DT066.

Students commencing the third year Degree programmes may be offered a choice of the Civil or Structural Engineering degree. Places are limited and successful students will be offered places depending on their performance in Year 2. All students will be offered a place on one of the programmes.

Subjects studied include mathematics, surveying, construction technology, design of structures, soil mechanics, computing, highway engineering transportation, hydraulics, environmental engineering and laboratory work.

A major project is undertaken in the final year.



Further Information

www.dit.ie/civilengineering

School of Civil Engineering

01 402 3638 (Mr. Joe Kindregan/Head of Dept.)
01 402 3635 (School Administrator)

joseph.kindregan@dit.ie

COURSE CODE:

DT024

COURSE LENGTH:

3 YEARS

APPROX:

50 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

(SEE DT066)

Module Listing

Year Two

Mathematics & Statistics • Mechanics of Materials • Surveying • Fluid Mechanics • Concrete & Construction Technology • Professional Development • Structural Analysis • Laboratory Work • Project (Surveying) • Computing

Year Three

Mathematics & Computing • Mechanics of Materials • Professional Development • Structural Analysis • Design of Structures-Concrete • Design of Structures-Steel • Municipal Engineering • Soil Mechanics • Laboratory Work • Project (Surveying) • Computing

Year Four

Mathematics & Computing • Mechanics of Materials • Professional Development • Structural Analysis • Design of Structures-Elements • Highway Engineering • Design of Structures-Scheme • Laboratory Work • Individual Project • Computing

What are my... Career Opportunities?

Graduates of Structural Engineering have the prospect of employment with contractors, research organisations, consultants, as well as state and semi-state agencies and local authorities. Some pursue postgraduate studies in Ireland or abroad directly after graduating or they may go abroad to work initially and in this way gain wider or specialised experience. Graduates are eligible for Membership of Engineers Ireland and are also accepted for entry to appropriate postgraduate programmes in Ireland and abroad.

*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.



You might also be INTERESTED IN:

- Civil Engineering - DT027 Pg 134
- Civil Engineering - DT004 Pg 178

OIBRÍOCHTAÍ & TEICNEOLAÍOCHT IOMPAIR TRANSPORT OPERATIONS & TECHNOLOGY

BSc Leibhéal 8 / Level 8

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6	2	OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is...Transport Operations & Technology?

Transport is key to both manufacturing and service industries worldwide. Transport Operations and Technology involves the technical and managerial aspects in one or other of the transport sectors - road, rail, sea and air.

Due to the growth in the transport sector both in Ireland and abroad, there are now major opportunities for those wishing to make their careers in the transport industry. This Degree in Transport Operations & Technology will give graduates the opportunity to gain employment in many of the technical, managerial and possibly senior management roles in both the transport industry but also in many transport-related businesses.

Learning Outcomes:

What will I Study?

The graduate will be capable of solving problems and making informed decisions in a modern technologically sophisticated transport industry and will possess:

- ♦ A detailed knowledge of the operations of transport industry
- ♦ A thorough understanding of the technological aspects of transport
- ♦ The skills and knowledge required to manage people and other resources in the transport sector
- ♦ Communication, problem-solving and decision-making skills



What our Students say!

- This programme was a fantastic opportunity to gain an appreciation of how the transport and logistics industry operates and the work placement element in year 3 was invaluable. Sitting in a classroom is one thing but having the opportunity to get out there and gain some experience in the industry was fantastic. It confirmed my belief that transport is the career for me.

Further Information

www.dit.ie/spatialplanningtransportengineering

School of Spatial Planning & Transport Engineering



01 402 4068



01 402 3932 (School Administrator)



01 402 3991

COURSE CODE:

DT028

COURSE LENGTH:

4 YEARS

APPROX:

40 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

275

Module Listing

Year One

Introduction to Transport • Road Vehicle Technology • Mathematics & Science for Technology • Legal Studies • Communications • Information Technology • Road Transport Operations • Airport Operations • Marine Operations & Technology • Vehicle Electrical Systems • Mathematics & Science for Technology • Transport Economics • Management

Year Two

Railway Operations • Engine Technology • Transport Economics • Management - Accounting • Legal Studies • Information Technology • Road Transport Operations (Legislation) • Materials Handling • Road Vehicle Technology • Railway Technology • Management - Accounting • Communications • Quantitative Methods

Year Three

Transport of Dangerous Goods • Airline Operations • Aircraft Technology • Communications • Information Technology • Road Vehicle Technology • Work Placement (semester two)

Year Four

Road Transport Operations • Financial Management • Transport Marketing • Aircraft Technology • Strategic Management • Transport Maintenance & Workshop Management • Vehicle & Engine Performance Testing • Dissertation

What are my... Career Opportunities?

Due to the growth in the transport sector there are now major opportunities for those wishing to make their careers in the transport industry. The Degree in Transport Operations & Technology will give graduates the opportunity to gain employment in a technical/managerial capacity in one or other of the transport sectors - road, rail, sea and air.

*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 the opportunity to pursue further study (i.e. MSc, MPhil or PhD study).

Are there study abroad options?

Students have the opportunity to undertake a work placement abroad for one semester in year 3 of the programme.

Graduates also have the opportunity to pursue postgraduate studies abroad following successful completion of the programme.



You might also be INTERESTED IN:

- ♦ Logistics & Supply Chain Management - DT358 Pg 112

CEANTÁLAÍOCHT, LUACHÁIL & GNÍOMHAIREACHT EASTÁIT AUCTIONEERING, VALUATION & ESTATE AGENCY

BSc Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Auctioneering, Valuation & Estate Agency?

This programme is suitable for those wishing to prepare for a career as an estate agent, property manager or property valuer and aims to give an understanding of the legal, economic and physical framework within which the property market functions.

To provide property services in the areas of sales, letting or property management, it is a legal requirement to obtain a licence from the Property Services Regulatory Authority (PSRA). Graduates of this programme are eligible to apply for this licence.

Students may leave with a graded Certificate in Auctioneering, Valuation and Estate Agency upon successfully completing year two of the programme (having gained 120 ECTS credits), allowing them to apply for their licence from the PSRA.

Learning Outcomes:

What will I Study?

A range of modules are taught to provide students with an understanding of selling, leasing, valuing and managing property. The programme also provides students with the analytical skills to understand financial areas that impact upon the job of an estate agent, property valuer and property manager.

The programme develops your skills in:

- interpersonal relationships
- logical thinking
- teamwork
- presentations and communication
- numeracy and computing
- managing tight deadlines
- self-motivation



Further Information

www.dit.ie/realestate

School of Surveying & Construction Management



01 402 3675 (Mr Martin Hanratty - Head of Department)
01 402 3741 (Declan McKeown - Programme Chair)



martin.hanratty@dit.ie
declan.mckeown@dit.ie

COURSE CODE:

DT104

COURSE LENGTH:

3 YEARS

APPROX:

45 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

275

Module Listing

Year One

Valuations • Economics • Finance/Accounting • Law
• Construction Drawing & Cartography • Marketing •
Quantitative Methods /Information Technology (Financial &
Statistical Mathematics)

Year Two

Valuations • Property Management & Taxation • Marketing
& Taxation • Financial Management • Law • Construction
Studies • Planning • Quantitative Methods

Year Three

Valuations • Marketing & European Investment Markets •
Land Use Economics • Building • Housing • Feasibility Study
• Architecture & Urban Society



What are my... Career Opportunities?

Estate Agents and auctioneers are involved in the sale, letting, management and valuation of residential and commercial buildings. The programme provides students with the academic knowledge and vocational skills to function effectively in the built environment workplace.

Generally, graduates work in the larger firms or in small partnerships. The programme is very suited to those with an entrepreneurial spirit and also provides the skills to enable graduates, after gaining appropriate work experience, to open their own business.

The career is suitable for those who have an interest in people and the built environment. Other desirable traits are an outgoing nature and the ability to get on with people.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level at the end of their final year on the programme and who meet certain prerequisites have the opportunity to transfer to the third year of the Property Economics honours degree programme (DT110) or the third or final year of the BSc. Property Studies honours degree programme (DT159).

Are there study abroad options?

Students have the opportunity in the third year of the programme to apply for a position on the ten-day International Real Estate Challenge which is a Third Level Institute project, based in Berlin.

You might also be INTERESTED IN:

- Geomatics - DT112 **Pg 146**
- Property Economics - DT110 **Pg 160**
- Planning & Environmental Management - DT106 **Pg 156**
- Quantity Surveying & Constructin Economics - DT111 **Pg 162**

INNEALTÓIREACHT UATHOIBRITHE AUTOMATION ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Automation Engineering?

Automation Engineering involves the design, development and implementation of sensor and robotic systems for applications across a wide range of technological sectors. Modern engineering systems employ a broad spectrum of technologies, which when integrated provide for improved efficiency, quality and reliability. The combination of Mechanical, Electrical and Electronic Engineering with Computer Technology, namely, Mechatronics, is core to this endeavour. This integrated approach is becoming increasingly important in modern technological environments. This programme is delivered from a multi-disciplinary perspective, thus equipping graduates for a diverse range of modern technological roles.

What our Students say!

- Pedro DaSilva: Graduated 2011 and is currently studying towards an Honours Degree in Manufacturing & Design Engineering: "I chose Automation Engineering as I have always been interested in automation technology and robotics. This brought me into a different environment, a building with active and busy people, laboratories and workshops where components and systems move automatically. Staff are very helpful and approachable and the programme includes interesting classes in science, technology, PLC programming and Computer Aided Design. My work placement in 2nd year brought me to the Bioengineering Department in Trinity College Dublin. Being part of a work environment was great and my work included testing experimental projects, assembling of electrical systems, working in clean room environment, and brainstorming design sessions. My final year project involved the design and manufacture of a system for the packaging of medical devices. This programme opens up employment opportunities across a wide range of industries and I am looking forward to embarking on this journey".

Learning Outcomes:

What will I Study?

Students will develop a range of skills in the design and implementation of automation solutions; from 3D Computer Aided Design (CAD, Solid-Modelling), sensor and instrumentation selection, programming of robotics to the management of the resulting systems. The study programme is designed to provide the student with the skills necessary to perform as a technologist in a range of industries.

The programme appropriately combines academic class-work and practical "hands-on" work in DIT laboratories and workshops. Work placement in a suitable industrial environment is undertaken in Semester 2 of Year 2.

On completion of the programme, students will be able to:

- Apply a body of knowledge and a range of skills to the integration of Mechanical, Manufacturing, Electrical and Electronics systems with Software Engineering and Computer Technology at a level appropriate to modern automation and manufacturing systems.
- Demonstrate a level of competency in design and construction of electromechanical systems operating under programmed control.
- Explain and assess the functionality, operation and integration of a variety of electro-mechanical hybrid devices, equipment and systems.
- Use tools, machines and materials in a safe manner, identify hazards and evaluate risks.
- Use a range of software based engineering tools and applications (Solid-Modelling software), as well as word processing, spreadsheet, database and presentation software.
- Locate, evaluate and utilize relevant information from technical manuals, drawings databases and other sources.
- Demonstrate relevant transferable and interpersonal skills, such as, communications, teamwork, project management and self-management skills.
- Distinguish between and be able to implement the management functions and the supervisory roles within manufacturing organisations.

COURSE CODE:

DT003

COURSE LENGTH:

3 YEARS

APPROX:

32 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

270

Module Listing

Year One

Mathematics • Mechanical Systems 1&2 • Electrical Systems • Automation Technology • Communications Studies • CAD & IT • Electronic Systems • Manufacturing Systems

Year Two

Mathematics • Mechatronics • Automation Systems • Manufacturing Systems • Communications Studies • 3D CAD & IT • Team Project

Work Experience in a High Tech Manufacturing Environment

Year Three

Mathematics • Manufacturing Management • Mechatronics • Systems Integration • CAD and Information Technology • Project • Industrial Automation • Business & Management Project - The final stage of the programme includes a major practical project which runs throughout the academic year.

What our Students say!

- David White: "I would highly recommend anyone interested in engineering to do Automation Engineering. The first year of the programme gives you a general overview of the different sciences and technologies for study in Automation and Robotics. The Maths and science classes are delivered to small groups of students so the lecturers can give additional help as you need it. I did my work placement with PAK Automation/ A.C.I. (Automated Components Ireland), this was a great opportunity to get my hands dirty and apply the knowledge gained in college, wonderful experience. The automation equipment in the laboratories is industry-standard which puts us at a major advantage when we go out into the workplace and I am excited by my employment prospects both in Ireland and abroad".

What are my... Career Opportunities?

Excellent! The qualification is appropriate to those wishing to take up employment in high tech. sectors as high calibre technologists. Typical industries include Medical Device, Pharmaceutical and Electronics Manufacturing. Many graduates are now finding employment with high technology companies across Europe and beyond.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who reach the appropriate level in final examinations and meet certain subject prerequisites may progress to Level 8 Honours Degree programmes (typically enter at Year 3 of the 4 year programmes at DIT or elsewhere). Those who graduate with this Bachelor of Engineering Technology Degree (B.Eng.Tech) degree qualify for the Associateship membership (AMIEI) of EI.

Are there study abroad options?

Yes. There are Erasmus agreements with many third level institutes across Europe where 1 and 2 semester student exchanges can be facilitated.



Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering



01 402 3832 (Programme Leader)



mark.mcgrath@dit.ie



01 402 3659 (School Administrator)



Ireland's EU Structural Funds Programmes 2007 - 2013

Co-funded by the Irish Government and the European Union

You might also be INTERESTED IN:

- Manufacturing & Design Engineering - DT023 Pg 148
- Electrical & Control Engineering - DT009 Pg 180

BAINISTÍOCHT & TEICNEOLAÍOCHT GHLUAISTEÁN

AUTOMOTIVE MANAGEMENT & TECHNOLOGY

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Automotive Management & Technology?

The motor industry is an exciting and dynamic place to work. This programme is tailored to prepare graduates to perform in senior technical, administrative, supervisory and management positions. It will equip them with the necessary mix of academic and practical skills, giving them an inter-disciplinary approach to carrying out tasks. An important part of the programme is the final year Automotive Engineering Technology Project.

Learning Outcomes:

What will I Study?

Automotive management and technology prepares learners for careers in the motor industry, it is a combination of management, business and technology studies that are ideally suited to the wide range of technical administrative, supervisory and management roles available in this huge and dynamic industry. On successful completion of the programme the graduate will be able to demonstrate knowledge and understanding of:

- The roles, responsibilities and requirements of different activities across the multifunctional areas of an automotive business
- The characteristics of the management role; the management and development of people within organisations; organisational behaviour; and human resource management
- The use of relevant communication techniques for application in an automotive business
- The uses of accounting for managerial and reporting applications
- The development, management and use of information systems and technologies and their impact on automotive operations
- The legislative and regulatory framework in which the automotive industry operates
- The maintenance and servicing techniques required for modern vehicles
- The principles and operation of the mechanical systems found in motor vehicles
- The principles and operation of electrical/electronic systems found in motor vehicles
- Automotive diagnostic and testing procedures
- The health and safety aspects of working in a vehicle servicing and repair environment
- Engineering science principles and their application to motor vehicle technology

What our Students say!

- Graduate 2009 - Commercial Vehicle Sales Administrator: "DT007 has provided all the fundamentals necessary to jump start my career in the automotive industry and has made working in such a complex and dynamic industry an enjoyable and rewarding experience."
- Graduate 2010: "DT007 was a very interesting and challenging programme, upon completion of DT007, I progressed onto a level 8 programme DT028."
- Third Year Student: "DT007 is a very interesting and challenging programme, I particularly enjoyed the final year Automotive Engineering Technology project as this brought all aspects of the programme together."

Further Information

www.dit.ie/spatialplanningtransportengineering

School of Spatial Planning & Transport Engineering



01 402 3782 (Mr. Declan Allen, Head of Dept.)
01 402 3991

declan.allen@dit.ie

COURSE CODE:

DT007

COURSE LENGTH:

3 YEARS

APPROX

55 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

240

Module Listing

Year One

Semester 1: Automotive Technology • Management Studies • Legal Studies • Communications • Information Technology • Automotive Workshop Practice
Semester 2: Marketing • Automotive Electrical Systems • Vehicle Body Repair Technology • Management (Supervisory) • Maths • Automotive Science

Year Two

Semester 1: Engine Technology • Maths • Automotive Service & Repair Operations • Information Technology (AutoCad) • Legal Studies • Automotive Workshop Practice
Semester 2: Automotive Technology • Automotive Science Laboratory • Automotive Bodyshop Management • Automotive Science • Communications • Automotive Sales Operations

Year Three

Semester 1: Automotive Technology • Management (HRM) • Financial Maths and Statistics • Communications • Automotive Workshop Practice • Automotive Engineering Technology Project
Semester 2: Automotive Science • Automotive Electrical Systems • Automotive Science Laboratory • Information Technology • Automotive Design • Automotive Engineering Technology Project

What are my... Career Opportunities?

Graduates of the programme have a wide range of career options. Employment prospects are good as there is a continuously strong demand for suitably qualified graduates to fill the many technical, administrative, supervisory and management positions available in all sectors of the motor 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 level in final examinations and meet certain subject prerequisites may have the opportunity to access honours degree programmes at the Year 3 or 4 level in DIT and elsewhere in Higher Education.

Are there study abroad options?

The Department has links with a number of Erasmus partner institutions, currently in France, Germany and Poland. These allow students the opportunity to undertake an Erasmus exchange abroad. The Department is currently establishing links and building relationships with a number of partner institutions in the United States.



You might also be INTERESTED IN:

- Transport Operations & Technology - DT028 **Pg 166**
- Mechanical Engineering - DT006 **Pg 188**

EITLÍOCHTA TEICNEOLAÍOCHTA AVIATION TECHNOLOGY

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Aviation Technology?

The Bachelor of Engineering Technology in Aviation Technology prepares learners for careers in the aviation industry. The programme is aimed at meeting the employment needs of the aviation sector by providing graduates with a degree level qualification. The programme offers an interdisciplinary approach in which the students obtain a mix of technological, business and management skills specifically related to the aviation industry.

Learning Outcomes:

What will I Study?

Student learn to develop the following skills:

- ◆ Develop individual skills by enhancing the conceptual and analytical abilities of the graduate for application within the context of the civil aviation industry framework.
- ◆ Develop an understanding of the importance of Training and Education within the Aviation Industry by fostering an ethos within the graduate to be self-motivating and pursue personal development and lifelong learning skills.
- ◆ Develop an intricate technical knowledge and understanding of the Principles of Flight.
- ◆ Develop personal and interpersonal skills to enable managing oneself, and others within the industry.
- ◆ Develop competence in information systems integral to aviation/ aircraft operations, management and maintenance.
- ◆ Provide the graduate with an understanding of the complex inter-relationships existing within the various sub-sectors of the Aviation Industry (Legislative design, Manufacturing, Commercial, Operations and Maintenance)



Further Information

www.dit.ie/spatialplanningtransportengineering

School of Spatial Planning & Transport Engineering



01 402 3617 Ivan Sheridan (Training & Examinations Manager)



ivan.sheridan@dit.ie

COURSE CODE:

DT011

COURSE LENGTH:

3 YEARS

APPROX:

40 PLACES

LOCATIONS

**BOLTON ST
DUBLIN AIRPORT**

POINTS 2015

340

Module Listing

Year One

Semester 1: Maths for Technology • Electricity & Electronics • Materials Hardware & Maintenance Practices • Aerodynamics • Structures & Systems • Aircraft Engines • Aeronautical Workshop Practice
Semester 2: Electricity and Electronics • Aerodynamics • Structures & Systems • Engineering Mechanics • Avionics • Thermo-fluids • Electricity & Electronics Lab

Year Two

Semester 1: Electricity & Electronics • Information Technology • Electricity & Electronics Lab • Avionics • Aircraft Engines • Aviation Legislation
Semester 2: Human Factors • Aerodynamics • Structures & Systems • Aeronautical Workshop Practice • Communications • Employment Law & Employee Relations • Health & Safety

Year Three

Semester 1: Financial Management & Accounting • Avionics • Materials Hardware & Maintenance Practices • Commercial Maintenance Management • Project Management • Group Project
Semester 2: Technical Services • Planning • Spares & Logistics • Airline Operations • Quality Assurance • Professional Development • Group Project

What are my... Career Opportunities?

Graduates will find employment in a range of areas including airline operations - maintenance planning - scheduling - quality assurance and control - fleet management - technical administration - purchasing - spares trading and provisioning - maintenance repair and overhaul operations.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level in final examinations and meet certain subject prerequisites may have the opportunity to access Honours Degree programmes at the Year 3 level in DIT and elsewhere in Higher Education.



You might also be INTERESTED IN:

- ◆ Mechanical Engineering - DT022 **Pg 150**
- ◆ Mechanical Engineering - DT006 **Pg 188**
- ◆ Automotive Management & Technology - DT007 **Pg 172**

INNEALTÓIREACHT SHEIRBHÍSÍ FOIRGNÍOCHTA (HVACR)

BUILDING SERVICES ENGINEERING (HVACR)

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Building Services Engineering (HVACR)?

Building Services Engineers are responsible for designing the engineering systems in buildings. These systems consume almost half of all the energy we use today. Building Services Engineers together with architects design energy efficient and environmentally-friendly buildings.

All the mechanical and electrical systems inside a building which make it safe, make it work and make it a great place to be, come under the title of 'Building Services Engineering'.

How do we design buildings that consume much less or even no energy at all? This is the challenge that you'll face as a modern Building Services Engineer.

Learning Outcomes:

What will I Study?

There is a strong emphasis throughout the course on low energy design and the application of what you learn through practical and project work. When you've completed the course you will have a detailed knowledge of the design of energy efficient engineering systems in modern buildings.

In the first year you'll complete a "design, make and test" project. An example of this could be to design, make and test a solar collector. You will learn about how energy is used in buildings, how to design heating and ventilation systems and undertake mini project work. You will also study physics and maths.

In the second year you'll learn more about the design of mechanical and electrical engineering systems and buildings using computer aided design. You will learn about assessing the energy performance and energy rating of buildings. Projects are an important part of the second year allowing you to apply what you have learnt during the lectures to an actual building. You will complete two design projects in the second year working in a group with other students.

The third year of the course includes the major design project and dissertation. The main design project builds on the project in the second year. You will design all the engineering systems for a large commercial building including design drawings and calculations. The dissertation is a detailed study into one area of your project that you find interesting. This might be about solar energy or a new method of air conditioning.

What our students say!

- The ordinary degree in Building Services Engineering is a very practical course, with great project work. It gave me the opportunity to move up onto the honours degree, something which wasn't possible when I was first looking for a place at college.
- I wasn't completely sure that building services was what I wanted to do at first but I find the BEng Tech course very interesting. We're in the middle of our second semester project at the moment, which should be good preparation for the larger third year design project.

Find us on facebook:

www.facebook.com/BuildingServicesEngineering

Further Information

www.dit.ie/civilengineering

School of Civil Engineering

- 01 402 3711 (Mr Chris Montague, Course Head)
- 01 402 3833 (Dr Ben Costelloe, Head of Department)
- 01 402 3826 (School Administration)

- chris.montague@dit.ie
- ben.costelloe@dit.ie
- cbse@dit.ie

COURSE CODE:

DT005

COURSE LENGTH:

3 YEARS

APPROX:

40 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

225

Module Listing

Year One

Energy and Buildings • Design Make and Test Project • Thermal Performance of Buildings • Natural and Mechanical Ventilation of Buildings • Engineering Mathematics 1 • Engineering Physics • Engineering Design and Communication • Computing and Engineering Graphics • Thermal Insulation, Cladding and Fabrication Technology

Year Two

Management Studies • Computer Aided Design and Energy Performance • Electrotechnology, Electronics and Measurement • Engineering Mathematics 2 • Heating Systems • Engineering Water Services • Engineering Team Project • Heating System Design • Engineering Mathematics 3 • Fluids & Thermodynamics • Ventilation and Air-conditioning • Construction Technology • Team Project • Ventilation System Design

Year Three

Electrical Distribution & Control Systems • Dissertation and Design Project • Air Conditioning Systems • Engineering Renewable and Low Energy Technologies • Building Load Assessment & Computer Modelling • Fuels, Combustion and Gas Services • Acoustics and Vibration Engineering • Mathematics 4 • Engineering Management



What are my... Career Opportunities?

Graduates work with Ireland's top engineering design and high technology companies such as ARUP, Project Management Group, Intel, Hewlett Packard, Pfizer, Dublin Airport Authority, Boston Scientific and RTE.

There is a need for Building Services Engineers who are experts in improving the energy performance of buildings and opportunities exist in the expanding fields of energy management and renewable energy from solar and geothermal energy sources. Many past graduates are successfully working abroad in the UK, America and Australia.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who reach the appropriate level in the final year have the opportunity to join the third year of the Building Services Engineering (Sustainable Energy Systems) Level 8 degree programme within DIT and elsewhere in Higher Education.

Many of the Departments best students graduating from the Level 8 degree have started their studies on the BEngTech in Building Services Engineering.

Are there study abroad options?

The School has links with a number of Erasmus partner institutions, currently in France, Germany and Finland. These allow students the opportunity to undertake an Erasmus exchange abroad. To discuss study options that are available, contact the Erasmus Coordinator of the School of Civil Engineering.

You might also be INTERESTED IN:

- Civil Engineering - DT027 **Pg 134**
- Civil Engineering - DT004 **Pg 178**
- Building Services Engineering - DT026 **Pg 132**
- Building Management - DT170 **Pg 196**

INNEALTÓIREACHT SHIBHIALTA

CIVIL ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Civil Engineering?

Civil Engineering Technologists design and construct roads, bridges, railways, dams, water supply systems and sanitary services.

Recognition by Professional Bodies

Those who successfully complete this programme meet the Technician Engineer academic requirements of Engineers Ireland and may qualify for the Associateship grade of membership after they have completed a suitable period of practical training.

Learning Outcomes:

What will I Study?

This programme presents applicants with an opportunity to develop their mathematical and analytical skills to solve many of the problems encountered in the broader civil engineering industry. Civil Engineering is an ideal choice for aspiring graduates looking for a high-tech career that offers opportunities to work both indoors and outdoors.

This programme equips graduates with the necessary skills to work as civil engineering technologists, carrying out much of the detailed analytical and design specifications on a building project. An interest in problem solving, computation and mathematics is important. Each year of the programme is delivered over two semesters with examinations at the end of each semester.

At the end of Year 2 students are offered a choice of entering options in Civil/Environmental or Structural Engineering in Year 3.



Further Information

www.dit.ie/civilengineering

School of Civil Engineering

- 01 402 3638 (Mr. Joe Kindregan, Head of Dept.)
- 01 402 3635 (School Administrator)

 joseph.kindregan@dit.ie

COURSE CODE:

DT004

COURSE LENGTH:

3 YEARS

APPROX:

45 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

260

Module Listing

Year One

Mathematics & Computation • Structural Mechanics • Engineering Science • CAD/Graphics • Building Technology & Geology • Engineering Communications & Practice • Introduction to Civil Engineering

Year Two

Mathematics & Computation • Surveying • Engineering Communications • Management & Practice • CAD/Graphics • Civil Engineering Procedures & Practice • Structural Analysis & Design • Environmental Engineering

Year Three

Core Mathematics & Computation • Engineering Economics & Management • Soil Mechanics • Main Project
Structural Option: Structural Analysis • Structural Design Steel/Concrete
Civil/Environmental Option: Highway & Transportation • Water/Environmental Engineering

What are my... Career Opportunities?

Civil Engineering graduates can expect excellent employment prospects with recognised career path opportunities in consulting engineering design offices, contracting, materials supply and as building site managers. Some graduates can expect to be in private practice or working on behalf of national and local authorities. Graduates can expect a varied and challenging career with good salaries, secure employment and good promotion opportunities.

Some graduates will expect to continue their studies onto Level 8 programmes either within DIT or elsewhere.

After completion: Students who have reached the appropriate level in final examinations and meet certain subject prerequisites may have the opportunity to access honours degree programmes at the Year 3 level in DIT and elsewhere in Higher Education.

Students who successfully complete year two of this programme and who do not wish to progress to third year will receive a Higher Certificate award.

**For more career development options please see inside front cover*

What other options do I have after completion?

Students who have reached the appropriate level in final examinations and meet certain subject prerequisites may have the opportunity to access Honours Degree programmes at the Year 3 level in DIT and elsewhere in Higher Education.

You might also be INTERESTED IN:

- Civil Engineering - DT027 **Pg 134**

INNEALTÓIREACHT LEICTREACH & RIALAITHE ELECTRICAL & CONTROL ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Electrical & Control Engineering?

Electrical and Control Engineering involves a variety of engineering roles from the day to day running of ECG machines and ventilators in hospitals to engineering technologist positions in manufacturing plants and in the electrical power industry to name but a few. Graduates can be responsible for the electricity supply and electronic systems in unusual and exciting work environments such as cruise liners and aircraft. They also develop and install high-security alarm systems, advanced lighting, and automated production equipment.

Electrical and Control Engineering involves analysing complex electrical and electronic circuits and power systems. In addition, computing skills, ranging from ECDL to advanced level programming in control and automation systems are required in order for students to enter careers in the many areas of electrical power, automation, robotics, pharmaceutical and manufacturing industries.

Learning Outcomes:

What will I Study?

In the first year the student is introduced to a broad range of foundation courses that underpin modern Electrical Engineering.

At the start of the second year the student is offered the choice of one of two streams in either Control and Automation Systems or Electrical Energy Systems.

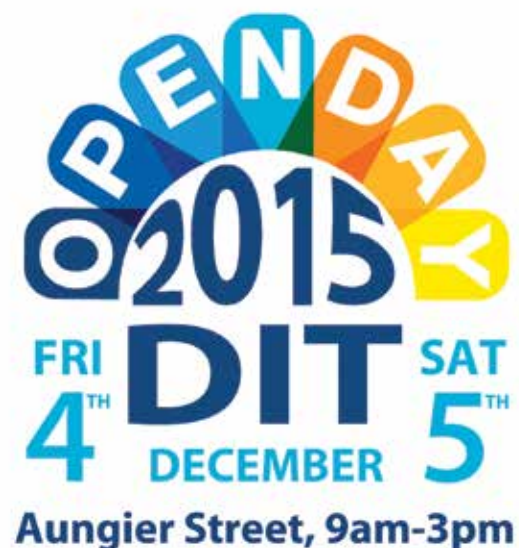
In addition there are a number of option courses available to allow the student broaden his/her knowledge base.

Electrical Energy Systems: techniques used and the equipment required for the efficient generation, transmission and use of electricity.

Control and Automation Systems: design and programme robotic production lines and other automated systems.

An important feature of the programme is that of building the students communication, professional development and management skills.

In the final year all students complete their studies by engaging in a substantial engineering project in their chosen specialist field.



Further Information

www.dit.ie/electricalelectronicengineering

School of Electrical & Electronic Engineering

01 402 4938 (Mr. Colm Murray)	✉ colm.murray@dit.ie
01 402 4874 (Mr Michael Farrell)	✉ michael.farrell@dit.ie

COURSE CODE:

DT009

COURSE LENGTH:

3 YEARS

APPROX:

32 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

250

Module Listing

Year One

Mathematics • Engineering Science • Electrical Principles • Professional Development • AutoCAD • Electrical Services • Electronic Systems • Electrical Practice

Year Two

Mathematics • Electrical Systems • Control and Automation Systems • Electrical Energy Systems • Engineering Computing • Electronic Systems • Instrumentation & Measurement • Engineering Design & Practice • Industrial Computing

Year Three

Sustainable Energy Systems • Project Management • Engineering Project • Control Systems & Automation • Electrical Energy Systems

Options: three subjects from a group including: Electrical Services, Systems Engineering, Mathematics, Signals & Systems, Robotics, Industrial Electronics, and Business Entrepreneurship

What are my... Career Opportunities?

Because of the broad nature of the programme, Electrical and Control Engineering graduates from DIT have found employment in a variety of engineering roles in the following industries: Electrical power systems, Renewable energy, Automation, Robotics, Pharmaceutical industries, Process and manufacturing industries, Medical devices and equipment and many more.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level in their award have the opportunity to gain advanced entry to the 3rd year of DIT honours degree programmes, and programmes at other Higher Education Institutions.

Students who successfully complete Year 2 of this programme and who do not wish to progress to the third year will receive a Higher Certificate award.

Are there study abroad options?

Students have the opportunity of completing their final year project abroad in a European University under the Erasmus Exchange programme.



You might also be INTERESTED IN:

- Automation Engineering - DT003 **Pg 170**
- Electronics & Communications Engineering - DT008 **Pg 182**
- Sustainable Design in Electrical Services Engineering - DT010 **Pg 192**

INNEALTÓIREACHT LEICTREONAICE & CHUMARSÁIDE ELECTRONICS & COMMUNICATIONS ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Electronics & Communications Engineering?

Communications technology is one of the most sophisticated and rapidly changing application areas of electronics. It now pervades the daily lives of every person, through mass communication networks, as well as person-to-person communications based on fixed and wireless networks. A good example is the Internet which has undergone explosive growth in the last few years. Communications also now involves a wide range of information, not just data, but also voice, multi-media and video.

Learning Outcomes:

What will I Study?

The programme prepares students for challenging careers in Electronic and Communications Engineering in areas such as design support, development and production. The programme has a particular focus on Communications Engineering, particularly in the latter years.

Graduates of the programme who achieve a high average mark in the final examinations are eligible for transfer into the honours degree four year programmes in Computer & Communications Engineering (DT081) and Electrical/Electronic Engineering (DT021).



What our Students say!

- I always had an interest in "how things work" which is why I choose this programme. There is a nice mix of applied work and lectures and the laboratory work is all relevant to real life examples such as "How a computer stores data on a USB key". My final year project is developing a digital CAD package with another student.
- Engineering covers such a wide area that I have a lot of choices available to me this year when I finish. Some of my choices would be to pursue further study and study for my honours degree and specialise in another area or work in industry for a while.
- I started this programme not knowing anyone in DIT, but that only lasted a short time as I have made some really great friends. In my three years in DIT I have become involved in societies, volunteering events and sports clubs. College life is nothing like secondary school, I love it!

Further Information

www.dit.ie/electricelectronicengineering

School of Electrical & Electronic Engineering

01 402 4576 (Dr Andreas Schwarzbacher)	✉ andreas.schwarzbacher@dit.ie
01 402 4575/4665 (School Administrator)	✉ info@electronics.dit.ie
01 402 4690	

COURSE CODE:

DT008

COURSE LENGTH:

3 YEARS

APPROX:

32 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

260

Module Listing

Year One

Engineering Science • Mathematics • Digital Age Technology • Communication Systems • Electric Circuits & Devices • Electronic Systems & Practice • Communication Skills • Software Systems • Computer Systems

Year Two

Mathematics • Electronics • Software Design • Digital Communications Engineering • Digital Electronics & VLSI • Signals & Systems • Microcomputer Systems

Year Three

Mathematics • Electronics • Software Design • Communications Systems • DSP Applications, Business

Students also undertake an engineering project in the third year, which gives them a valuable insight into the solution of real-world engineering problems.

Students are required to choose one optional module in third year. The typical modules available are Microelectronic Materials and Devices, Wireless Systems, Digital System Integration, Microprocessors and Embedded Systems.

All of the technical subjects in the three years of the programme include a range of applied laboratory activities designed to enhance the knowledge and skills of the students.

What are my... Career Opportunities?

Graduates of this programme can pursue a highly satisfying, well-paid career path in areas of employment such as working as an engineer for example, as part of a design team or developing sophisticated test systems. After gaining some experience there are also management opportunities. This programme will find employment for our graduates in a wide range of industries such as electronics, communications, pharmaceuticals, and other related areas.

*For more career development options please see inside front cover

What other options do I have after completion?

The DIT 'Ladder System' allows students who reach the appropriate level in final examinations progress to honours degree programmes (See DT081 & DT021).

Students who successfully complete year two of this programme and who do not wish to progress to the third year will be eligible for a Higher Certificate award.



You might also be INTERESTED IN:

- Sustainable Design in Electrical Services Engineering - DT010 **Pg 192**
- Automation Engineering - DT003 **Pg 174**
- Electrical & Control Engineering - DT009 **Pg 180**

INNEALTÓIREACHT (IONTRÁIL GHINEARÁLTA)

ENGINEERING (GENERAL ENTRY)

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Engineering?

This 1-year programme provides a general access route to engineering programmes for those who have not decided which engineering discipline they would like to study.

On successful completion of the programme, students will have the mathematical and scientific basis to successfully enter the second year of seven different Level 7 discipline-specific programmes. In addition, in a limited number of cases, some students with proven ability may be permitted to progress to the first year of the Level 8 Bachelor of Engineering honours degree programme at DIT.

This course will suit students who have an interest in technology and in solving problems in the engineering world.

Students are assessed by a combination of examinations at the end of each semester and continuous assessment projects.

Learning Outcomes:

What will I Study?

You will study a combination of maths, science, engineering design, drawing and you will also be given a general introduction to the engineering profession. There is a strong emphasis on group projects within the programme.



Further Information

www.dit.ie/multidisciplinarytechnologies

School of Multidisciplinary Technology

01 402 4059 (Eddie Conlon)
edward.conlon@dit.ie

COURSE CODE:

DT097

COURSE LENGTH:

1 YEAR

APPROX:

64 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

340

Module Listing

Year One

Semester 1: Engineering Maths • Engineering Technology • Mechanics & Engineering Material • Design Projects • Introduction to the Engineering Profession • CAD

Semester 2: Engineering Maths • Engineering Physics • Mechanics & Engineering Material • Design Projects • Elective modules

What other options do I have after completion?

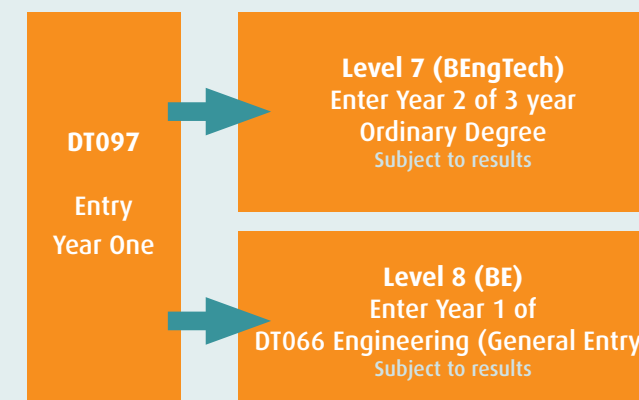
After successfully completing first year, students are eligible for transfer into year 2 of one of our Level 7 (BEngTech) programmes. Those who achieve a high average mark in their examinations and a high mark in mathematics are also eligible for entry into year 1 of one of our BE Level 8 programmes.

[See Below.](#)

Level 7 - Bachelor of Engineering Technology BEngTech in the chosen level 7 degree.

or

Level 8 - Bachelor of Engineering BE Honours Degree DT066 - Engineering (General Entry) Level 8 in DIT.



Students who pass DT097 have a choice of entering 2nd year of the following Level 7 Bachelor of Engineering Technology (BEngTech) degrees in DIT:

- DT002 - Engineering Systems Maintenance
- DT003 - Automation Engineering
- DT004 - Civil Engineering
- DT005 - Building Services Engineering
- DT006 - Mechanical Engineering
- DT008 - Electronic and Communications Engineering
- DT009 - Electrical and Control Engineering
- DT010 - Sustainable design in Electrical Services Engineering

Students who pass DT097 with a high average mark and a high mark in mathematics may enter year 1 of DT066 – Engineering (General Entry) Level 8 and may then progress to year 2 of;

- DT027 - Civil
- DT024 - Structural
- DT026 - Building Services
- DT081 - Computer & Communications
- DT021 - Electrical/Electronic
- DT022 - Mechanical
- DT023 - Manufacturing & Design Engineering

You might also be INTERESTED IN:

- ♦ Engineering (General Entry) - DT066 [Pg 144](#)

COTHABHÁIL CHÓRAIS INNEALTÓIREACHTA ENGINEERING SYSTEMS MAINTENANCE

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

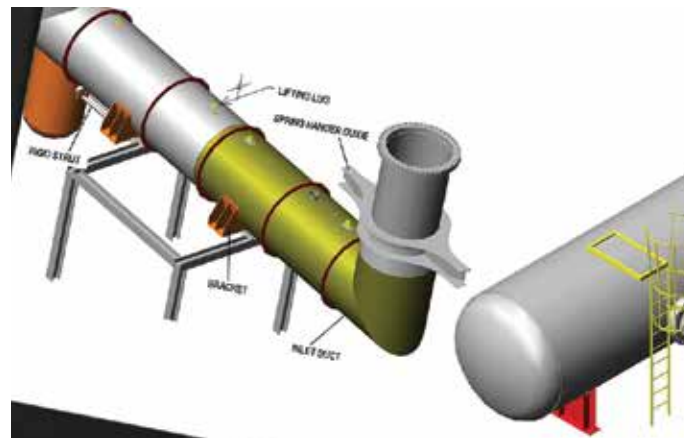
What is... Engineering Systems Maintenance?

Engineering Systems Maintenance is an engineering activity which allows graduates to work in a mechanical /manufacturing/electrical engineering maintenance environment in high-tech multi-national companies as well as traditional indigenous industries and public utilities. These activities are a key component of an industry's competitiveness as well as ensuring efficiency, safety and reliability of production and service delivery of utilities. Graduates of the course will have acquired the requisite knowledge and skills to operate effectively in an environment where diagnostic and applied engineering skills will be valued and rewarded.

Learning Outcomes:

What will I Study?

The Engineering System Maintenance programme was specifically designed to meet the increasing demands on maintenance technologists. The function of maintenance engineering personnel has changed in the past two decades. This has led to a demand in modern industry for an integrated multi-skilled, flexible maintenance technologist, with expertise in the complementary disciplines of electrical, mechanical, fluid power and computer applications.



Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering

01 402 3843 (Head of Department)	pat.duke@dit.ie
01 402 4033 (Course Leader)	william.bergin@dit.ie
01 402 3626 (Secretary)	

COURSE CODE:

DT002

COURSE LENGTH:

3 YEARS

APPROX:

32 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

240

Module Listing

Year One

Semester 1: Maths • Computer Software Applications • Communications • Power Conditioning • Maintenance Principles of Power Transmission • Electro-Technology
Semester 2: Maths • Electro-Technology • Applied Engineering Science • Applied Engineering Materials • Maintenance Principles of Power Transmission • Programmable Logic Controllers

Year Two

Semester 1: Maths • Facilities Operation Maintenance & Efficiency • Maintenance & Asset Management • Instrumentation • Maintenance Diagnostic Systems • Applied Engineering Science
Semester 2: Maths • Facilities Operation Maintenance & Efficiency • Computer Aided Design • Electrical Service Plant • Programmable Logic Controllers • Maintenance & Asset Management

Year Three

Semester 1: Maths • Reliability • Availability • Maintainability & Supportability • Electrical Facilities Maintenance • Mechatronics • Facilities Operation Maintenance & Efficiency • Project
Semester 2: Advance Maintenance Techniques • Business Management • Metrology & Quality • Computurised Plant Maintenance • Project

What are my... Career Opportunities?

Manufacturing industry in Ireland has expanded significantly over the past number of years, especially in the pharmaceutical and chemical industry. Promotion to higher positions within an organization is dependent on your ability, application and dedication. The option of self-employment is also a feasible and attractive one.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level in final examinations and meet certain subject prerequisites may have the opportunity to access honours degree programmes at the Year 3 level in DIT and elsewhere in Higher Education.

Those who qualify with a Bachelor of Engineering Technology Degree meet the Technician Engineer level requirement of Engineers Ireland and can qualify for the Associateship grade of membership after they have completed a suitable period of practical training.

Students who successfully complete Year 2 of the programme and who do not wish to progress to the third year will receive a Higher Certificate award.



You might also be INTERESTED IN:

- Mechanical Engineering - DT006 **Pg 188**
- Automation Engineering - DT003 **Pg 170**
- Electrical & Control Engineering - DT009 **Pg 180**

INNEALTÓIREACHT MHEICNIÚIL MECHANICAL ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Mechanical Engineering?

Mechanical engineering education and training involves learning how to creatively apply a strong scientific, mathematical and practical basis to the design of safe, reliable, environmentally sound and cost effective systems and equipment. Teamwork, communication skills and knowledge of how to apply and use modern computer simulations and control systems are important skills to all Mechanical Engineers. Mechanical Engineers perform the basic research needed to advance knowledge in the engineering sciences and Mechanical Engineering focuses on the skills needed to be an effective problem solver.

Learning Outcomes:

What will I Study?

Students are exposed to a wide range of laboratory and practical mechanical engineering tasks that complement the theoretical modules. The Mechanical Engineering Programme maintains its traditional flexibility, allowing its graduates a wide choice of opportunity in all industries. It stresses the fundamentals while embracing the changes in advanced technology. It also provides the core transferable skills which prepare graduates for career changes when desirable.

During Year 1 of the programme, students undertake a wide range of practical skills including welding, metal fabrication, machining, technical drawing, computing and experimental work. These practical lifelong learning skills are developed further in year 3 of the programme when students undertake an individual project, combining research, design, mechanical development, testing, analysis, presentation and report writing skills.

The Mechanical Engineering Department places great emphasis on independent learning and learners develop their skills in this area through project work, independent assignments and team work activities. Students are encouraged to visit Industries as part of their studies and report on their findings to their peers and lecturers.

This three-year full-time programme prepares learners for the Bachelor of Engineering Technology (Mechanical Engineering) degree award. At the start of the third year, learners are offered a choice; Process Plant Technology or Manufacturing Technology.

Those who have successfully completed the programme satisfy the academic requirements for Associate Membership grade of Engineers Ireland. MIEI, AMIEI.

What our Students say!

- I chose to study the Bachelor of Engineering Technology Degree in Mechanical Engineering as I have always had an interest in Engineering and Maths. With this qualification I can enter work in the engineering sector as a technologist or technician involved primarily in the design, manufacture, installation and maintenance of mechanical systems. Afterwards, I can pursue an Honours Degree in Mechanical Engineering through the ladder system in DIT to further my qualifications and I feel confident for the future.

Further Information

www.dit.ie/mechanicalanddesignengineering

School of Mechanical & Design Engineering

- 01 402 3605 (Head of Department)
- 01 402 3932 (Ms. Susan Doyle)

COURSE CODE:

DT006

COURSE LENGTH:

3 YEARS

APPROX:

75 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

310

Module Listing

Year One

Mathematics • Energy & Technology • Instrumentation • Mechanics & Materials • Workshop Processes • Professional Development • Engineering Drawing • Computer Systems & Applications

Year Two

Mathematics • Applied Energy Systems • Applied Mechanics • Design CAD & Materials • Electrical Technology & Electronics • Control Systems & Instrumentation • Engineering Management Studies • Manufacturing Technology • Engineering Computing

Year Three

Mathematics • Mechanics & Materials • Electrical Technology & Electronics • Control Systems & Instrumentation • Engineering Management Studies • CAD 3D • Main Project (Design, Make and Test with Thesis)
Optional Modules: Select 3: Process Systems Analysis or Manufacturing Methods • Energy System Designs or Product Design • Unit Operations or Manufacturing Management



What are my... Career Opportunities?

Mechanical Engineering technologists are involved in the design, prototyping, manufacture and installation of all types of plant and equipment ranging from small individual components to complete factories or process plants. Graduates have excellent prospects of employment with manufacturing, research, consulting and processing organisations along with state and semi-state agencies.

Mechanical Engineers design products and systems essential to everyday modern life from home appliances, motor vehicles, to satellites, wheelchairs, airplanes, robots, energy equipment, fuel cells, industrial equipment and environmental control systems.

*For more career development options please see inside front cover

What other options do I have after completion?

Many students combine the broad technical knowledge gained in their undergraduate studies with further study in Mechanical Engineering. Students can advance to the Third year of the Honours Degree in Mechanical Engineering (DT022) on completion of DT006.

Are there study abroad options?

As part of the programme, students can avail of the ERASMUS scheme whereby they can study abroad for a semester or full year and gain credits that are relevant to their qualification.

You might also be INTERESTED IN:

- Mechanical Engineering - DT022 **Pg 150**
- Automotive Management & Technology - DT007 **Pg 172**
- Aviation Technology - DT011 **Pg 174**

TEICNEOLAÍOCHTAÍ LÍONRAITHE NETWORKING TECHNOLOGIES

BTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OC3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Networking Technologies?

Networking Technology is about designing and building computer networks. It involves the physical installation and commissioning of networks and connection to the Internet. Networking Technologists are able to maintain networks, including redesigning and upgrading them. This particular programme incorporates modules on CISCO network systems. CISCO is the leading networking company and you will have the opportunity to acquire the valuable industry standard qualification, 'CISCO Certified Network Administrator', CCNA, during your course of studies.

Learning Outcomes:

What will I Study?

You will be provided with a grounding in computer networking technologies, electronics and communications and web development, together with a knowledge of business operations, management and finance. Expertise and practical experience is gained to enable you to diagnose, repair and maintain computer and network hardware and system software. For example, you will be able to evaluate and upgrade computer systems. You will also be able to support all peripheral equipment which connects to computer networks, so that you will be able to support the services that this equipment provides to users. You will also gain experience in controlling external devices using computers, e.g. surveillance systems, robots, industrial automation systems, etc.

Software is also an integral part of all networks so you will be able to install and maintain a wide range of network and system software, including operating systems, such as Windows, UNIX and Linux. You gain valuable skills in network security, web design and web services.

An industry standard education coupled with four to seven month work/business placement will complement your academic learning and ensure that on graduation you can immediately apply your skills.

This programme has an emphasis on continuous assessment. A great deal of your time will be spent working on assignments and projects. You will learn by doing and working on hands-on applications rather than from theory. You acquire the skills needed in these areas by using them in real life situations as part of your assignments and projects. Some modules still retain an end of semester exam.

The programme is structured to permit exit after successful completion of Year 2 with a Higher Certificate.

What our students say!

- 3rd year Student : I am currently studying my final year in DT080 - BTech in Networking Technologies. After three years, I feel I am now equipped with valuable skills which I have learned in my labs and lectures and through my project work. The CISCO qualification is an additional industry recognised qualification with this programme and as this sector is thriving at the moment, I look forward to starting my future career in this area.

Further Information

www.dit.ie/electrical-electronic-engineering

School of Electrical & Electronic Engineering



01 402 4799 (Mr Dermot Clarke)



dermot.clarke@dit.ie



01 402 4575 (School Administrator)

COURSE CODE:

DT080

COURSE LENGTH:

3 YEARS

APPROX:

64 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

260

Module Listing

Year One

Applied Data Networking • Computer Hardware & Security
• Digital Age Technology • Electronics • Information Literacy Project • Network Fundamentals (CCNA-1) • Physical Computing • Routing & Switching Essentials (CCNA-2) • Web Development

Year Two

Business Management • Fund. Wireless Tech. (CCNA-W) • Scaling Networks (CCNA-3) • Microcontrollers & Electronics • Operating Systems • Problem Solving with C • Server-side Web Development • Connecting Networks (CCNA-4)

Year Three

Financial Management • Fund. of Network Security (CCNA-S) • Network Management • Networked Embedded Systems • Programming for Networked Systems • Team Assignment Project • Project Management • Work Placement

What are my... Career Opportunities?

Computer networks are everywhere. As a student you will acquire the technical skills and knowledge necessary for a career in IT and computer networking. These skills cover the design, planning, installation, configuration, administration, maintenance and management of local and Internet connected networks. Virtually every organisation in every area of work (such as commercial, industrial, service, educational, everywhere!) has computer networks and needs the services of network technicians and engineers.

The industry recognised CCNA qualification ensures a high demand for graduates of this programme and they will be key players in communication network management teams in all industrial, commercial and service organisations.

*For more career development options please see inside front cover

What other options do I have after completion?

Graduates will be equipped to progress through the DIT ladder system to the Honours Degree programmes within the Institute or elsewhere in Higher Education.

Are there study abroad options?

The work placement is an integral part of the programme, in which you will learn to apply within the workplace the knowledge and skills already gained in the programme. Your work placement period could be undertaken abroad, or you could participate in the Erasmus Programme.



You might also be INTERESTED IN:

- Computer & Communications Engineering - DT081 **Pg 136**
- Computer Science (Infrastructure) - DT211 **Pg 210**
- Computer Science - DT228 **Pg 208**
- Computer Science (International) - DT282 **Pg 212**
- Business Computing - DT354 **Pg 100**

DEARADH INBHUANAITHE SAN INNEALTÓIREACHT SHEIRBHÍSÍ LEICTREACHA SUSTAINABLE DESIGN IN ELECTRICAL SERVICES ENGINEERING

BEngTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Sustainable Design in Electrical Services Engineering?

The field of Electrical Services Engineering and Sustainable Design incorporates engineering disciplines employed both in modern buildings as well as the broader concerns associated with the green economy. These environments require graduates with a high degree of knowledge capability and diversity in an ever expanding engineering context with an ability to apply such skills in the retrofit and upgrade of facilities.

Learning Outcomes:

What will I Study?

The disciplines covered by the programme include environmental control and communication, power distribution, standby generation, lighting, emergency services (lighting and fire), access control, data services, automation, building management systems and many more. As well as expertise in these areas, graduates from this programme will have expertise in the application of low carbon technologies including green generation technologies.

Students will have a keen interest in how things work and in problem solving. There is plenty of scope for exercising innovation, creativity and flair when using new technologies to solve everyday problems.

Green building technology, efficient use of energy and sustainability are all areas that are addressed. The programme also includes modules covering project management, refrigeration, heating, ventilation & air-conditioning as well as renewable plant technologies.



Further Information

www.dit.ie/electricelectronicengineering

School of Electrical & Electronic Engineering



01 402 4882 (Mr Keith Sunderland, Programme Chair)



keith.sunderland@dit.ie



01 402 4617 (Ms Frances Malone, Administration)



frances.malone@dit.ie

COURSE CODE:

DT010

COURSE LENGTH:

3 YEARS

APPROX

32 PLACES

LOCATIONS

KEVIN ST

POINTS 2015

250

Module Listing

Year One

Engineering Mathematics • Energy and the Environment
• Electrical Principles • Electrical Services Design •
Safety Engineering • Engineering Science • Professional
Development • Computer Applications & Professional
development • Computer Aided Drawing (AutoCAD) •
Electrical Standards

Year Two

Engineering Mathematics • Renewable Energy Plant
• Electrical Services Plant • Life Protection Systems •
Building Information Modelling • Electrical Services Design
• Professional Development • Building Services • Project
Management • Services Design Project

Year Three

Engineering Mathematics • Sustainable Building
Engineering • Renewable Energy Plant • Electrical Services
Plant • Industrial / Building Automation • Electrical
Services Design • Building Services • Project Management
• Services Design Project

What are my... Career Opportunities?

Electrical Services Engineers enjoy a very varied, interesting work environment.

There are many areas in which graduates can develop an interest and subsequently specialise. These include working in an electrical design office for a consulting engineer as engineering systems support in the manufacturing sector, technical sales support, project management, energy and environmental control or in the provision of industrial services. The work invariably involves both office based and site/location activity.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who graduate from DT010 may progress as follows:
The one year advanced entry programme BSc Honours Degree in Electrical Services and Energy Management - DT712 (Full Time) or DT018 (Part Time).

And from there to the MSc in Energy Management - DT711 (Full Time) or DT015 (Part Time).

Graduates may also gain Advanced Level Entry to higher degree programmes in DIT and elsewhere.



You might also be INTERESTED IN:

- Electrical & Control Engineering - DT009 **Pg 180**
- Electronics & Communication Engineering - DT008 **Pg 182**
- Networking Technologies - DT080 **Pg 190**

TEICNEOLAÍOCHT TÁIRGE ADHMAID TIMBER PRODUCT TECHNOLOGY

BTech Leibhéal 7 / Level 7

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
6		OC3	OC3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available.
Please visit www.dit.ie/study/undergraduate/fetac/

What is... Timber Product Technology?

Timber Product Technology suits students who love working with wood and wish to develop that interest into a successful career. The programme provides education in how to make high quality furniture and joinery, and how to manage the workshops and businesses in which these products are made. The course explores the full range of furniture and joinery manufacturing methods from machining and automated systems to traditional craft skill (including drawing, jointing techniques and restoration). The students also learn how to manage within timber production facilities, whether large factories or small workshops.

Learning Outcomes:

What will I Study?

The first year is designed to allow participants to develop or expand the practical skills used in a modern workshop. Participants will gain training in both hand skills and machining practices required to safely operate a modern workshop. Also covered are theoretical subjects relative to the timber industry.

The timber operations management related modules provide the necessary managerial and practical skills required in a modern production/workshop environment. The students will be exposed to all areas of furniture and joinery manufacture, its design and methods of completion using both traditional and modern/computerised methods while managing people as a key resource.

The furniture and joinery manufacture modules provide the learner with the knowledge and skills to be professionally competent in the design, construction, restoration, repair and finishing of furniture and joinery of modern and historical styles, with the skills necessary to start up or manage a small to medium size workshop.

The mix of practical content and management skills create a graduate with a unique skillset needed in timber production facilities.



What our Students say!

- I came to this course straight from leaving certificate unsure of what to expect. A few weeks in I realised working with wood was exactly what I enjoyed doing. You could compare the first year of this course to your 1st to 3rd year woodwork classes which you focused on furniture and your joints. If you like working with wood and want to produce some beautiful and unique pieces of furniture then I would highly recommend doing this course.
- Having spent 8 years in this industry I have found that the TPT course gives a great education in all the areas of Woodwork, Machinery, Cabinetmaking and Joinery. By combining all three trades, it gives the students a much more diverse qualification on which to enter industry. Today's industry requires graduates with multiple skills and this course produces such graduates.

Further Information

www.dit.ie/architecture

School of Architecture

01 402 3690 (School Administrator)
dsa@dit.ie

joseph.little@dit.ie (Programme Chair)

COURSE CODE:

DT169

COURSE LENGTH:

3 YEARS

APPROX:

32 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

260

Module Listing

Year One

Jointing Techniques & Furniture • Wood Machining • Applied Geometry & Drawing • Regulatory Environment (Health & Safety) • Materials • Academic Reporting skills • Communications • Timber Industry Maths • Joinery • CAD

Year Two

CNC Router & CAD /CAM • Regulatory Environment (Health & Safety) • Entrepreneurial Studies • Timber Industry Maths • Materials • Timber Production Management • Project • Wood Machining • HRM for Timber Industry • Estimating & Tendering • Bespoke Machining Techniques & Furniture • Wood Finishing • Principles of Furniture & Joinery Design • 3D CAD • Joinery

Year Three

Business, Finance, Marketing & Law • Thesis • Timber Operations Management • Timber Product Design for Manufacturing • Automation Technology • Applied Materials • Wood Finishing & Reproduction • Conservation Studies • Management Principles for Timber Industry • Joinery • Restoration Project

What are my... Career Opportunities?

The range of practical skills taught in the three years, coupled with managerial skills, provide the graduate with numerous career opportunities spread across the closely related disciplines of joinery, cabinet making and wood machining. They range from shop floor or operations manager in a large timber production facility suited to managing and making within a small or medium-sized timber product workshop. The economic recovery and the increased demand for prefabricated building components and for well-priced high quality furniture and joinery products are leading to growth in this field.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate level in their final examinations of this Level 7 programme may progress to related Level 8 programmes. These may be in areas such as furniture design, production management or a range of business degrees in DIT or elsewhere in Higher Education.



You might also be INTERESTED IN:

- Buildings Management (Maintenance & Conservation) - DT170 Pg 196

BAINISTÍOCHT FOIRGNEAMH (COTHABHÁIL & CAOMHNÚ)

BUILDINGS MANAGEMENT (MAINTENANCE & CONSERVATION)

ARDTEASTAS / HIGHER CERTIFICATE Leibhéal 6 / Level 6

LEAVING CERT ENTRY REQUIREMENTS:

Minimum N° of		Minimum Grade in	
Subjects	Honours	Maths	English or Irish
5		OD3	OD3

FETAC LEVEL 5 ENTRY REQUIREMENTS:

A FETAC Level 5 entry route to this programme is available. Please visit www.dit.ie/study/undergraduate/fetac/

What is... Buildings Management?

Buildings management is about the maintenance, repair, upgrading and improvement of buildings. This includes a thorough understanding and knowledge of construction principles, techniques and methods of construction and conservation. It is designed to produce graduates who are capable of managing the successful completion of a building maintenance and conservation project in a professional manner guided by the acquired knowledge from this programme. Students will learn to apply the principles of business and finance, report writing, research, health and safety legislation and maintenance management systems. There is also a significant hands-on element whereby candidates will have the opportunity to sample skills associated with the construction industry.

Learning Outcomes:

What will I Study?

This full-time programme provides students with knowledge, skills and competencies in the management, maintenance and conservation of buildings. It offers a mixture of both practical and theoretical subjects which are designed to complement each other. The programme has a large element of practical modules. These modules cover Brickwork, Carpentry & Joinery, Plastering, Painting & Decorating and Plumbing. There are also theoretical modules such as Site Safety and Construction Procedures, Conservation Awareness and Self Professional Development.



Further Information

www.dit.ie/architecture

School of Architecture

01 402 2984 Eric Bates (Programme Chair)
eric.bates@dit.ie

COURSE CODE:

DT170

COURSE LENGTH:

2 YEARS

APPROX:

40 PLACES

LOCATIONS

BOLTON ST

POINTS 2015

220

Module Listing

Year One

The programme comprises twenty two modules each of which will be accredited separately:

- Construction Technology • Brick, Block & Stone • Mechanical Building Services • Site Safety & Construction Procedures • Research Design, Report Writing & Computer Skills • Mathematics & Financial Management • Construction Drawing & CAD • Self Professional Development • Carpentry & Joinery • Plastering • Painting & Decorating

Year Two

- Construction Technology • Mechanical Building Services • Conservation Awareness • Building Pathology • Electrical Systems • Major Project • Painting & Decorating • Air-conditioning Technology • Plastering Restoration • Building Energy & Resource Management Systems • Renewable & Sustainable Energy Technology

What are my... Career Opportunities?

The upgrading and conservation of existing buildings is an area of opportunity for those interested in working within the built environment. Statistics show that the repair, maintenance and improvement of buildings account for €2 billion annually including approximately €1 billion spent in the residential sector. With the availability of grants and government support, there will be a growing need to maintain these buildings and graduates from this programme will be well placed to service these needs.

*For more career development options please see inside front cover

What other options do I have after completion?

Students who have reached the appropriate standard, may have access to a range of other programmes in DIT or elsewhere in Higher Education.



You might also be INTERESTED IN:

- Buildings Services Engineering - DT005 Pg 176
- Timber Product Technology - DT169 Pg 194