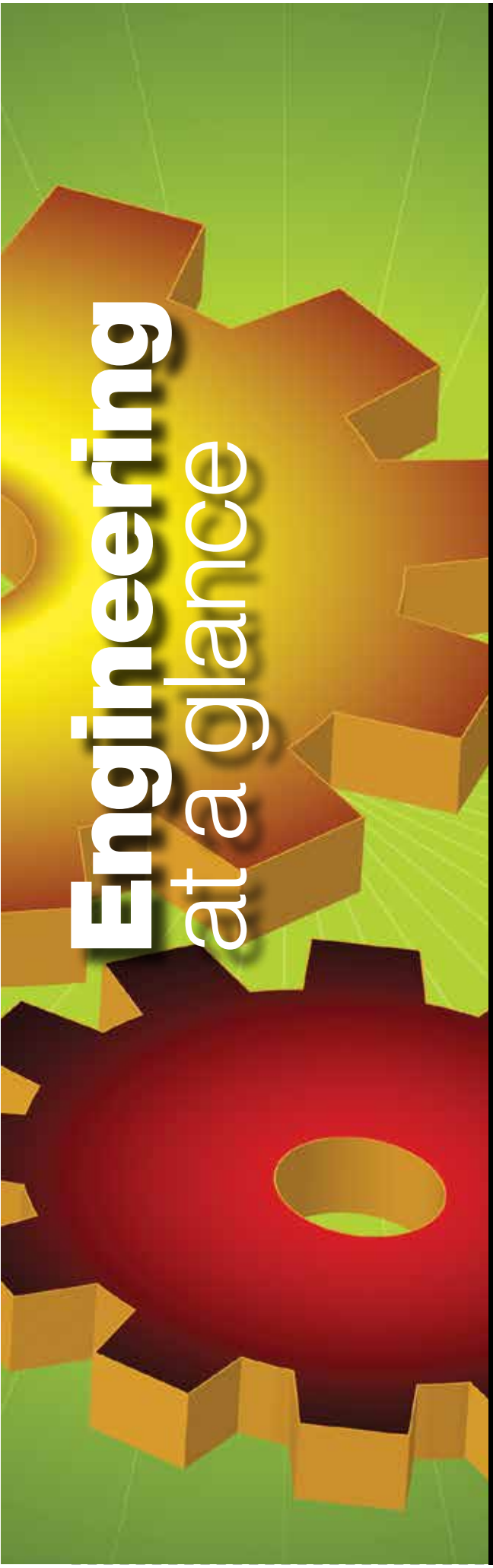

CAO Courses

Level 8

CR 105 BEng (Honours) in Chemical and Biopharmaceutical Engineering
CR 108 BEng (Honours) in Mechanical Engineering
CR 109 BEng (Honours) in Structural Engineering
CR 500 Engineering (Honours) (Common Entry)
CR 510 BEng (Honours) in Sustainable Energy
CR 520 BEng (Honours) in Biomedical Engineering
CR 522 BEng (Honours) in Building Energy Systems
CR 560 BSc (Honours) in Architectural Technology
CR 565 BSc (Honours) in Interior Architecture
CR 570 BSc (Honours) in Quantity Surveying
CR 572 BSc (Honours) in Construction Management
CR 580 BEng (Honours) in Electrical Power Systems
CR 590 BEng (Honours) in Electronic Systems Engineering
CK 606 BSc (Honours) in Architecture

Level 7

CR 046 BSc in Transport Management & Technology
CR 051 BEng in Civil Engineering
CR 052 Construction
Degree Award options:
BSc in Construction Management or
BSc in Quantity Surveying
CR 053 BSc in Interior Architecture
CR 061 BEng in Electronic Engineering
CR 062 BEng in Electrical Engineering
CR 071 BEng in Mechanical Engineering
CR 072 BEng in Building Services Engineering
CR 075 BEng in Biomedical Engineering
CR 077 BSc in Craft Technology (Wood) with Business
CR 090 BSc in Architectural Technology

Follow on Honours Degrees

Level 8

BSc (Honours) in Process Plant Technology
BSc (Honours) in Advanced Manufacturing Technology
BSc (Honours) in Transport Management

Postgraduate Programmes

Post Graduate Diploma in Embedded Systems Engineering
Post Graduate Diploma in Science in Construction Project Management
Master of Architecture
MEng in Chemical and Biopharmaceutical Engineering (Taught)
MEng in Mechanical Engineering (Taught)
MEng in Embedded Systems Engineering (Taught)
MEng in Structural Engineering (Taught)
MEng in Civil Engineering (Environment & Energy) (Taught)
MSc in Construction Project Management (Taught)
MEng (by Research)
PhD

Other Programmes

Higher Certificate in Science in Good Manufacturing Practice & Technology
BSc in Good Manufacturing Practice & Technology

Engineering (Common Entry) (Honours)

CR 500 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Depends on Specialisation. Choose from:
- BEng (Honours) in Chemical and Biopharmaceutical Engineering
- BEng (Honours) in Mechanical Engineering
- BEng (Honours) in Structural Engineering
- BEng (Honours) in Biomedical Engineering

Duration: 1 Year (2 Semesters) Common, students then choose specialisation.
Places: 30
CAO Points in 2011: **Round 1:** 310 / **Final:** 310

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (H) or A2 (O)	D3 (O/H)

What is Engineering?

Engineering is the practical application of science and mathematics to solve problems, and it is everywhere in the world around you. Engineering technologies improve the ways that we communicate, work, travel, stay healthy, and entertain ourselves.

Engineers are problem-solvers who want to make things work more efficiently, quickly, and less expensively. From computer chips and satellites to medical devices and renewable energy technologies, engineering makes our modern life possible.

myCIT myCourse

"The Engineering (Common Entry) Programme gave me the opportunity to see all four engineering disciplines first hand, through the various modules on offer, interaction with the lecturers and site visits, this helped me decide which discipline suited me the best."
Timothy Harrington

Helpful Leaving Certificate Subjects

Mathematics, Physics, Chemistry, and English.

Potential Areas of Employment

- Chemical & Process Engineering
- Mechanical Engineering
- Structural Engineering
- Biomedical Engineering

www.cit.ie/course/CR500

Module Information
http://modules.cit.ie/cr500

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course

The Common Engineering Honours Entry Scheme is a one year programme for students interested in engineering as a career, but who may be unsure of which discipline to follow.

The Scheme allows the student to sample the various engineering disciplines on offer at CIT, followed by three years of specialisation.

On successful completion of Year 1, students can enter the second year programme of their choice from any of the following Honours Engineering Degrees:

- CR 105 BEng (Honours) in Chemical and Biopharmaceutical Engineering
- CR 108 BEng (Honours) in Mechanical Engineering
- CR 109 BEng (Honours) in Structural Engineering
- CR 520 BEng (Honours) in Biomedical Engineering

Applicants are advised to visit each of the course sites for detailed descriptions at www.cit.ie

Lectures are supplemented by tutorials, laboratory and fieldwork. There is continuous assessment of reports and projects in addition to end of semester module examinations.

Career Opportunities

Graduate engineers from the Honours Engineering Degree Programmes can choose from a range of excellent career opportunities working in the private or public sector with opportunities available at both National and International Level. Many graduates ultimately progress to senior management positions in their organisations. These Honours Engineering Degree Programmes also provide a basis for suitably qualified graduates to pursue more advanced studies.

Contact Information

Des Walsh
Department of Civil, Structural & Environmental Engineering
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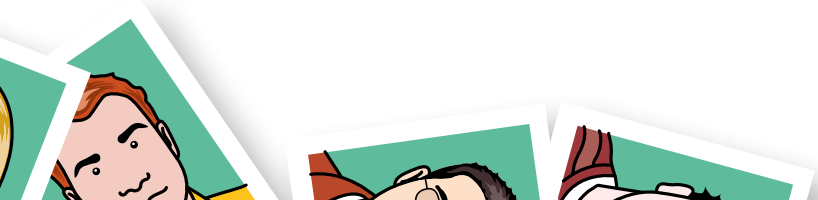
Question Time

Am I guaranteed my choice of study at the end of Year 1?
Yes. Successful completion of the Common Engineering Entry Year ensures guaranteed entry to Year 2 of BEng (Honours) programme of choice from the list given.

If I did not study Honours Mathematics in the Leaving Certificate will I struggle on the courses given that all course streams would normally require Honours Mathematics?
The Mathematics modules in Year 1 are specifically tailored to address the topics which underpin subsequent BEng (Honours) programme studies; this gives a very specific focus to student learning. While the Common Entry students undertake the same Mathematics modules as the Year 1 BEng (Honours) students, an additional module of Mathematics is undertaken in the inter-semester period in January each year. This provides the Common Entry students with an additional learning opportunity in advance of the Semester 2 Mathematics module. Experience has shown that students who do not have the usual BEng (Honours) minimum HC3 requirement do succeed in the Common Entry programme if they have also taken Leaving Certificate Physics and/or Chemistry and are committed to their Year 1 studies.

Students who do not have the HC3 Maths requirement, or equivalent, and who do not have Leaving Certificate Physics or Leaving Certificate Chemistry may find the programme particularly challenging and additional work effort and application is required of these students if they are to succeed.

What is the advantage of choosing the Common Entry?
The Common Entry gives the student an opportunity to discover more about the various fields of engineering and to identify the engineering profession which is best suited to them. Entry to Year 2 of the BEng (Honours) programme of their choice, from the list identified, is guaranteed for Common Entry students who successfully complete the one year programme – there are no quotas or limits on the number of students who may enter Year 2 of a particular discipline. The Common Entry offers those who may not have had the opportunity to take Higher Level Mathematics at Leaving Certificate, or those who may have opted out of Higher Level Mathematics during the Leaving Certificate programme, a second opportunity to attain the mathematical skills and competences required for BEng (Honours) Engineering Studies.



Structural Engineering (Honours)

CR 109 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Structural Engineering
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 380 / **Final:** 380

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	C3 (H) or (Note 1)	D3 (O/H)

Note 1: The requirement for HC3 Mathematics may also be satisfied by HC3 in Applied Mathematics plus HD2 in Mathematics.

What is Structural Engineering?

Structural Engineering is the science and art of designing civil engineering facilities so that they can safely resist the forces to which they may be subjected. All structures from bridges to buildings, harbours to airports, must be able to meet these requirements. Structural Engineers aim to design these structures with safety, economy and elegance.

myCIT myCourse

"In addition to theory, the lectures cover plenty of real life engineering problems, which give great context to the course. This way of learning is really interesting and gave me valuable insights into the work of qualified engineers."
Colm Casey

Helpful Leaving Certificate Subjects

Mathematics, English, and Physics.

Work Placement

As an elective module, there is a work placement of 8 weeks at the end of Year 3.

Potential Areas of Employment

- Consulting Civil & Structural Engineers
- Civil Engineering Contractors
- State/Semi-State Bodies and Utility Companies
- Local Authorities

www.cit.ie/course/CR109

Module Information
http://modules.cit.ie/cr109

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course is taught primarily through lectures, practicals and tutorials. A significant emphasis is placed on project and experimental work with site visits and field trips making up an integral part of the coursework. There is a continuing regional, national and international requirement for structural engineers with a knowledge of construction.

Students may use appropriate work experience in the summer period between Year 3 and Year 4 to complete the module with assessment and credit allocated in Year 4. Third year students are offered guidance, advice and assistance with the necessary arrangements and approval for their work experience proposal in the second semester of Year 3.

Accreditation
This course is fully accredited by Engineers Ireland. Engineers Ireland represents all engineering disciplines in Ireland and is a member of Federation Europeene d'Associations Nationales d'Ingenieurs (FEANI) through which Irish engineers are recognised in Europe. Engineers Ireland is a signatory to the Washington Accord through which Irish engineers are recognised in USA, Canada, Australia, New Zealand, Hong Kong, South Africa and UK.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates of an Honours Degree programme in Civil, Structural or Environmental Engineering are eligible to apply for a postgraduate degree at CIT:
- Master of Engineering in Structural Engineering (Taught)
- Master of Engineering in Civil Engineering (Environment & Energy) (Taught)
- Master of Engineering (by Research)

Suitably qualified graduates in Civil, Structural or Environmental Engineering may proceed to a research programme leading to a PhD.

Career Opportunities
Graduates will be well equipped to meet these demands and will find employment opportunities in Consulting Engineering Offices and with Building & Civil Engineering contractors. They may also be employed by state and semi-state bodies, including local authorities and utilities boards.

For further information in relation to the Civil and Structural Engineering profession please refer to the Engineers Ireland website at www.engineersireland.ie.

For further information in relation to the Structural Engineering profession please refer to the Institution of Structural Engineers website at http://www.istructe.org/.

The website for the Republic of Ireland branch of the Institution may be found at http://www.istructe.ie/.

Contact Information
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Department of Civil, Structural & Environmental Engineering
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E: brian.orourke@cit.ie

Question Time
What is the difference between Structural Engineering and Civil Engineering?
Civil Engineering is the professional engineering discipline which deals with the design, construction and maintenance of the physical infrastructure of the built environment. This includes works such as buildings, roads, bridges, water and wastewater treatment and supply and harbour and coastal engineering works. In addition to the technical skills required for the above work a Civil Engineer will also have competencies in related fields such as project and asset management & health and safety.

Structural Engineering is a specialist discipline within Civil Engineering which deals with design, construction and maintenance of structures such as buildings, bridges, culverts, towers, masts and foundations. This course provides graduates with the skills to work as a Civil Engineer, however, an additional emphasis is placed on Structural Engineering studies thus giving the graduates enhanced skills in this area.

What level of drawing is required for this course?
Prerequisite drawing studies are not required. Drawing skills are addressed in the programme modules on the assumption that the students have no prior knowledge or skills in the area.

myCIT myCareer

Daniel Goulding
Project Engineer

Daniel graduated with a First Class Honours Degree in Structural Engineering. Following graduation, Daniel received funding from the Environmental Protection Agency to research in the area of renewable energy.

Daniel is currently completing his PhD on a part-time basis while working for Bord Gáis. Daniel was a member of the Sigerson Cup Winning CIT Team in 2009 and was also the recipient of an All-Star award that year. In 2010, he was a key member of the Cork Senior Football Team which won both the Senior Football National League and the All-Ireland Championship.

Civil Engineering

CR 051 Level 7 Award

>> Progression to Honours Degree

▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Civil Engineering
Duration: 3 Years (6 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 225 / **Final:** 225

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Civil Engineering?

Civil Engineering deals with one of the most visible signs of change and progress around us: the construction of new buildings, structures and infrastructure. New roads, rail-links, bridges and airports are always needed. New buildings are required for the public and private sectors and older buildings are redeveloped. Civil Engineers are required to plan, design, construct and maintain these facilities.

Helpful Leaving Certificate Subjects

Mathematics, English, Physics, Design and Communication Graphics, and Construction Studies.

Potential Areas of Employment

Associate Engineer/Higher Technician Level in the following areas:

- Consulting Engineers
- Civil Engineering Contractors
- State/Semi-State Bodies and Utility Companies
- Local Authorities
- Self-Employed Consultant

myCIT myCourse

"What CIT does best is provide industry with graduates of a well-rounded nature and character which enables them to learn new skills quickly and to adapt to any situation."
Ger Cogan

www.cit.ie/course/CR051

Module Information
http://modules.cit.ie/cr051

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Practical sessions are carried out to provide as much "hands on" experience as possible. There is continuous assessment of reports, drawings and projects in addition to mid and end of module examinations. The Department of Civil, Structural & Environmental Engineering has active links with colleges in France, Germany, Finland and the Czech Republic and arranges student study exchanges with these colleges.

Accreditation
This course is fully accredited by Engineers Ireland. Engineers Ireland represents all engineering disciplines in Ireland and is a member of Federation Europeene d'Associations Nationales d'Ingenieurs (FEANI) through which Irish engineers are recognised in Europe. Engineers Ireland is a signatory to the Sydney and Dublin Accords through which Irish engineers are recognised in USA, Canada, Australia, New Zealand, Hong Kong, South Africa, and UK.

Further Studies
For details, see www.cit.ie

Subject to availability of places, suitably qualified graduates may be considered for entry to Year 3 of

→ Bachelor of Engineering (Honours) in Structural Engineering

Career Opportunities
An undergraduate education in Civil Engineering provides a very good platform not only for a career and/or further education in Civil Engineering but potentially for a much wider spectrum of employment opportunities. Graduates are likely to work in conjunction with architects, quantity surveyors, builders and also with personnel from other engineering disciplines.

For further information in relation to the Civil Engineering profession please refer to the Engineers Ireland website at www.engineersireland.ie

Contact Information
David Cadogan
Department of Civil, Structural & Environmental Engineering
T: 021 433 5957
E: david.cadogan@cit.ie

Question Time
What do Civil Engineers do?
Civil Engineering is the professional engineering discipline which deals with the design, construction and maintenance of the physical infrastructure of the built environment. This includes works such as buildings, roads, bridges, water treatment and supply, wastewater treatment, and harbour and coastal engineering works. In addition to the technical skills required for the above work a Civil Engineer will also have competencies in related fields such as project and asset management, and health and safety.

Why study Civil Engineering?
Civil Engineers identify and analyse problems, and develop and implement solutions. In addition to technical skills Civil Engineers have competences in related fields of project management and health and safety. Civil Engineers work as individuals and in teams. The problem solving, solution implementation and management skills of Civil Engineers are applicable to a broad range of work environments and are valued by a wide range of employers.

What level of drawing is required for this course?
Prerequisite drawing studies are not required. Drawing skills are addressed in the programme modules on the assumption that the students have no prior knowledge or skills in the area.

myCIT myCareer

Tony Creane
Civil Engineer

Tony graduated with a distinction and has gained a wide range of experience in the sphere of engineering, from commercial to industrial to residential, from private sector work to government contract work.

"The course provided me with the practical, theoretical and ethical skills that I required in my chosen area of work. Thanks to the quality of the lecturing staff and the first-rate facilities available in the Department, I am now in a position today to successfully move up the career ladder."

Construction Management (Honours)

CR 572 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Construction Management
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 250 / **Final:** 250

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Construction Management?

Construction Management deals with the organisation and management of a construction project. The Construction Manager monitors the progress and quality of the work on site, supervising and coordinating subcontractors and specialist suppliers. The Construction Manager has overall control of the progression of the project and is responsible for ensuring that the required personnel, materials and equipment are available in the correct sequence and at the appropriate time. She/he must also ensure that all health and safety regulations are met.

Helpful Leaving Certificate Subjects

Construction Studies, and Design and Communication Graphics.

myCIT myCourse

"Submitting a Project Evaluation and Development Report, and a Dissertation, really brought it home to me the vital skills required in order to be a Construction Manager. It was hard work but very worthwhile."
Shane O'Connor

Potential Areas of Employment

- Site Management
- Project Planning and Management
- Facilities Management
- Working with Developers, Designers and Contracting Organisations

www.cit.ie/course/CR572

Module Information
http://modules.cit.ie/cr572

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course is taught primarily through lectures, practicals and tutorials. Significant emphasis is placed on project and experimental work with site visits and field trips making up an integral part of the coursework. The student is required to submit a project evaluation and development report, and a dissertation.

Accreditation
This course is fully accredited by the Chartered Institute of Building.

Further Studies
For details see www.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT:
- → Postgraduate Diploma in Construction Project Management (Taught)
- → MSc in Construction Project Management (Taught)
- → MSc (by Research)

Career Opportunities
It is a challenging and rewarding career by providing the opportunity to be involved in the development of essential infrastructure projects in many parts of the world in his or her role as Construction Manager. The Construction Manager may be involved in all aspects of a project from working for a contractor as a site manager to assisting clients in achieving their construction projects.

Contact Information
Joseph Kehoe
Department of Construction
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E: joe.kehoe@cit.ie

Question Time
Why does a client require a Construction Manager?
If you think of all of the activities and resources that need to be managed to even undertake a simple building project and consider if the client has the necessary capability and experience to undertake this. It can be undertaken by the construction manager allowing the client to concentrate on his own business.

Is a Construction Manager site based?
One of the unique factors of the construction industry is that most of the work is done on a site, it can't be entirely made in a factory and then put in place; so in order to effectively control the process, the construction manager needs to be site based.

Does this only qualify me to work on a building site?
One of the attractions of the industry is the many and varied roles that construction professionals undertake and whilst many of these are site based, a skilled and experienced construction manager may also find many opportunities in other areas of the development and maintenance of the built environment.

Quantity Surveying (Honours)

CR 570 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Quantity Surveying
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 285 / **Final:** 285

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Quantity Surveying?

A Quantity Surveyor manages all costs relating to building and civil engineering projects, from the initial calculations to the final figures. Quantity Surveyors seek to minimise the costs of a project and enhance value for money, while still achieving the required standards and quality. A quantity surveyor may work for either the client or the contractor, working in an office or on-site. They are involved in a project from the start, preparing estimates and costs of the work.

Helpful Leaving Certificate Subjects

Construction Studies, and Design and Communication Graphics.

Potential Areas of Employment

- Professional Quantity Surveyor
- Contractor's Quantity Surveyor
- Estimator

myCIT myCourse

"This demanding yet rewarding course has prepared me for both further education and participation in the workplace. One of its many strengths is the extensive interaction with fellow students and lecturing staff."
Eoin Keane

www.cit.ie/course/CR570

Module Information
http://modules.cit.ie/cr570

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
A significant emphasis is placed on project and experimental work with site visits and field trips making up an integral part of the coursework. The course culminates with students submitting a bespoke construction project of their choosing demonstrating the application of technically appropriate, economically viable and environmentally sustainable solutions, from inception through to contract completion. Graduates, upon gaining employment, may commence their structured training leading to designation as a Chartered Surveyor.

Accreditation
The course is fully accredited by the Society of Chartered Surveyors Ireland (SCSI), The Royal Institution of Chartered Surveyors (RICS), the Chartered Institute of Civil Engineering Surveyors (CICES), and the Chartered Institute of Building (CIOB).

Further Studies
For details see www.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT:
- Postgraduate Diploma in Construction Project Management (Taught)
- MSc in Construction Project Management (Taught)
- MSc (by Research)

Career Opportunities
It is a challenging and rewarding career and affords the Quantity Surveyor an opportunity to travel to many parts of the world in his or her role as construction cost advisor/manager.

The Professional Quantity Surveyor is normally office based within a consultancy firm and their working hours will invariably involve visiting sites to attend site meetings and to monitor the progress and financial aspects of their construction projects.

The Contractor's Quantity Surveyor is normally site based and involves controlling construction costs for the Contractor/ Builder as they occur on site. He also procures various subcontractors to carry out different work packages for the building contract.

Contact Information
Eithne Farr
Department of Construction
T: 021 432 6407
E: eithne.farr@cit.ie

Question Time
What is the difference between a Professional QS and a Building QS?
The Professional Quantity Surveyor represents the client in all aspects of construction from feasibility study to final construction costs and is normally practice based. The Contractors Quantity Surveyor works for the main contractor/ builder to control construction costs as they occur on site and normally this Quantity Surveyor is site based.

How do I become Chartered?
Eligible graduates may apply to the Society of Chartered Surveyors Ireland (SCSI) for membership and undertake the Assessment of Professional Competence (APC), this is typically over two years and successful completion of this entitles them to full chartered membership of the SCSI.

Can a Quantity Surveyor work also as a Project Manager?
The project management role can be undertaken by any of the construction professions, provided they have the necessary management skills and capability.

Construction (Common Entry)

CR 052 Level 7 Award

>> Progression to Honours Degrees & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Depends on Specialisation. Choose from:
- BSc in Construction Management
- BSc in Quantity Surveying

Duration: 3 Years (6 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 200 / **Final:** 200

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Construction?

Construction is a process of the built environment which involves many areas of employment. For modern, complex buildings it involves the commissioning, management, design, and assembly of huge amounts of raw materials and the use of considerable labour resources.

Helpful Leaving Certificate Subjects

Construction Studies, and Design and Communication Graphics.

Potential Areas of Employment

- Site Management
- Quantity Surveying/Estimating
- Project Planning and Management
- Working with Developers, Designers and Contracting Organisations

myCIT myCourse

"Doing the Common Entry was a good insight to see how both a Construction Manager and a Quantity Surveyor carried out their work, and what would be involved in their career paths. I made an informed decision in Year 3 and I'm now completing my Honours Degree."
Scott MacDonald

www.cit.ie/course/CR052

Module Information
http://modules.cit.ie/cr052

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
For the first two years of the programme students follow a common curriculum. Students who successfully complete Year 1 and Year 2 may choose either the Bachelor of Science in Construction Management or the Bachelor of Science in Quantity Surveying in Year 3.

The Construction Manager monitors the progress and quality of the work on site, supervising and coordinating subcontractors and specialist suppliers.

The objective of Quantity Surveying is to control cost, limit risk and add value to a project.

In addition to lectures, time is also given to practical work in surveying, drawing, project work and Computer Aided Design (CAD).

Accreditation
This course qualifies for exemptions from the Chartered Institute of Building.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates may apply for entry to Year 4 of:
- → Bachelor of Science (Honours) in Construction Management

or
- → Bachelor of Science (Honours) in Quantity Surveying

Career Opportunities
The principal areas of employment are as surveyors or as construction managers with contracting organisations, government departments, semi-state bodies, and private practice companies.

Contact Information
Denis Coveney
Department of Construction
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E: denis.coveney@cit.ie

Question Time
What is the advantage of studying the Common Entry?
The student has the flexibility of the common two years of the course before having to decide on which specialist option they want to graduate in.

What level of drawing is required for this course?
Drawing is a useful skill but not essential, it helps students understand the technology that they will ultimately be managing or measuring.

myCIT
myCareer

Gerry O'Rourke
Project Manager

The Lord Pilkington Prize Gold Medallist for 2004, Gerry is currently working as a project manager for MACE Limited, a major Construction Management Company in the UK. "The course is very focused, ensuring that up to date methods are to the fore." Gerry aims to rise to the top of his profession and having already achieved first in the world for his Construction Management Project, his future seems assured.

myCIT
myCareer

Nadine Scallan
Chartered Quantity Surveyor

"I am currently employed as a Senior Surveyor. Projects with which I have been involved to date include housing and apartment developments, hotels, an art gallery and a health centre. My role on these projects extends from preparing budgets, bills of quantities, interim valuations, project cost control and cost reviews to the preparation and agreement of final accounts. What I enjoy most about my job is the range and variety of projects."

Architecture (Honours)

CK 606 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Architecture
Duration: 4 Years (8 Semesters)
Places: 45
Location: Cork Centre for Architectural Education, Copley St., Cork
CAO Points in 2011: **Round 1:** 420 / **Final:** 420

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English and Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Architecture?

Architecture explores new ways of living, investigates new technologies and materials, and strives to ensure that new buildings, towns and landscapes are environmentally sustainable. Architecture combines art, science and technology in the design and construction of buildings and their surroundings within a socio-cultural context. Architects engage themselves in all aspects and stages of the architectural process from design, through planning to construction and management. They are involved in projects of a diverse nature, including the design of domestic, retail, leisure, health, commercial, industrial and educational buildings, towns and urban landscapes.

Helpful Leaving Certificate Subjects

Art, Mathematics, English, Design and Communication Graphics, and a Science subject.

Where will I be studying?

The majority of lectures, practicals, and studio work are held in the Cork Centre for Architectural Education in Copley Street, Cork City. Some instruction may take place in the CIT campus and the University College Cork (UCC) campus.

Potential Areas of Employment

- Private Practice
- Commercial
- Government Organisation
- Local Authority

myCIT myCourse

"I chose CK 606 because it is the only place in Ireland where an Institute of Technology (CIT) and a University (UCC) have joined together to provide a Centre for Architectural Education. I have learned so much in a very short time and I have enjoyed every minute."
Caoimhe Lynch

www.cit.ie/course/CK606

Module Information
http://modules.cit.ie

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The BSc (Honours) Degree in Architecture is jointly offered by Cork Institute of Technology (CIT) and University College Cork (UCC).

This is a studio and project-led course integrating the three pillars of architectural education; design, technology and the humanities. The first year of study provides a foundation in design and the built environment, appropriate to both the discipline of architecture and associated design courses. The following years of study will become progressively more architecturally focused whilst still allowing and encouraging experimentation and research into associated disciplines as well as developing transferrable skills in communication, team working, computer aided design and management.

This exciting and innovative Honours Degree programme has been developed with the support of the local architectural profession and in consultation with the Royal Institute of Architects of Ireland (RIAI).

Accreditation
A formal application has been made to the Royal Institute of Architects in Ireland for professional accreditation of this course together with a fifth year programme of study leading to the award of a Master's Degree. Provisional accreditation has been granted. Full accreditation can only be granted once the first cohort of students graduate from the five years of education, with their Master of Architecture.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates will be eligible to enter a Master's of Architecture programme, which together with a Certificate in Architectural Professional Practice and Practical Experience, will provide the overall education programme geared towards professional accreditation.

Career Opportunities
The study of Architecture provides opportunities to develop a wide range of transferrable skills. Graduates will have had rich experience of working in teams, working to deadlines, developing abilities in verbal and graphic communication and most importantly, skills in creativitiy, design and innovation - the essential ingredients of success in the contemporary economy.

Architecture itself provides exciting and widely varied career opportunities. Graduates may specialise in certain types of buildings, or concentrate on a particular area such as design, technology, architectural conservation or project management. Graduates may work as part of a team in private practice, or in the architectural section of a commercial organisation or a Government Department or Local Authority.

Contact Information
Katherine Keane
Department of Architecture, CIT
T: 021 433 5970
E: katherine.keane@cit.ie

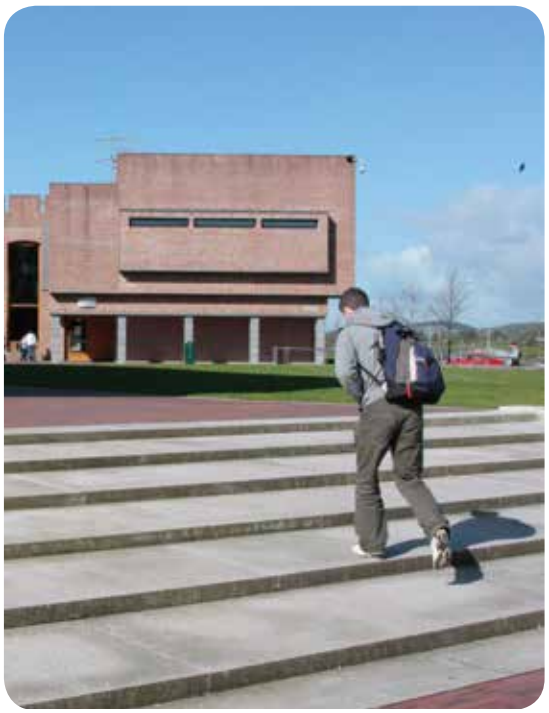
Gerry McCarthy
Cork Centre for Architectural Education
T: 021 429 8401

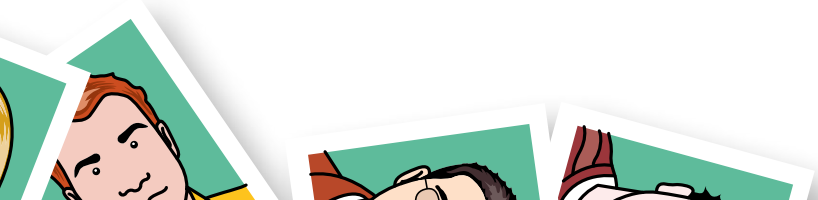
Question Time
How is my time split between CIT and UCC?
This is a joint programme between CIT and UCC. It is housed in the Cork Centre for Architectural Education, Copley Street, Cork.

How much of my time is devoted to studio and project work?
50% is devoted to studio.

What kind of personal skills do I need?
You need to be a creative, innovative, logical, critical thinker … think outside the box!

What is the difference between Architectural Technology and Architecture?
Architectural Technology can be described as technical design while Architecture focuses on overall building design.





Architectural Technology (Honours)

CR 560 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Architectural Technology
Duration: 4 Years (8 Semesters)
Places: 36-40 (between CR 560 and CR 090)
CAO Points in 2011: **Round 1:** 320 / **Final:** 320

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Architectural Technology?

The Architectural Technologist is involved with the technical issues of the architectural design process and plays the role of a technical designer. S/he is a team player who provides an expertise in technical design principles and knowledge in the development of the built environment. S/he is an organiser and coordinator of the diverse disciplines involved in the design and construction process.

Helpful Leaving Certificate Subjects

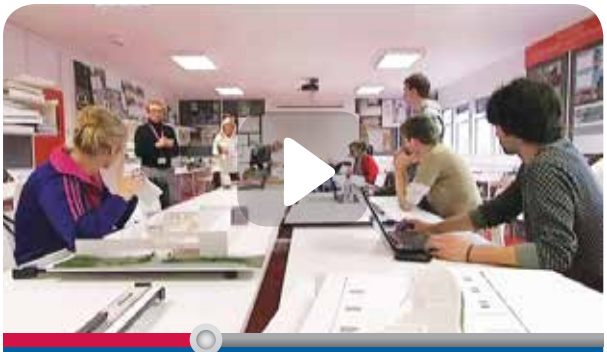
Art, Mathematics, English, Design and Communication Graphics, and a Science subject.

Potential Areas of Employment

- Private Practice
- Commercial
- Government Organisation
- Local Authority

myCIT myCourse

"I like the variety of drafting and the way in which theory and practical knowledge from site visits is blended with the drawing modules."
Elaine Casey



www.cit.ie/course/CR560

Module Information
http://modules.cit.ie/cr560

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This is a studio-led course involving working drawings and other construction related projects, with a range of lectures and site visits designed to contribute to the student's comprehension and to the development of project work.

Students in Year 4 of the programme have the opportunity to pursue specific areas of research critical to the built environment and architectural practice. Students identify individual areas of interest in the architectural process and conduct intensive research leading to expertise. These emerging specialisms are sought by architectural practices and allied disciplines in architecture and construction and provide graduates with competitive skills.

Accreditation
This course is in the process of accreditation review by the Royal Institute of Architects in Ireland. This course is fully accredited by the Chartered Institute of Building.

Further Studies
For details, see www.cit.ie

Master's and PhD level are available to suitably qualified graduates in colleges in Ireland and abroad.

Career Opportunities
A graduate of Architectural Technology is a critical member of the Design Team, as s/he has an excellent appreciation and knowledge of the other Design Team discipline roles, and is involved in the coordination and development of a project at all stages.

Graduates may specialise in certain building typologies or concentrate on a particular area such as technical design, technology, architectural conservation or project management. Graduates may work as part of a team in private practice, or in the architectural section of a commercial organisation or a Government Department or Local Authority.

Contact Information
Katherine Keane
Department of Architecture
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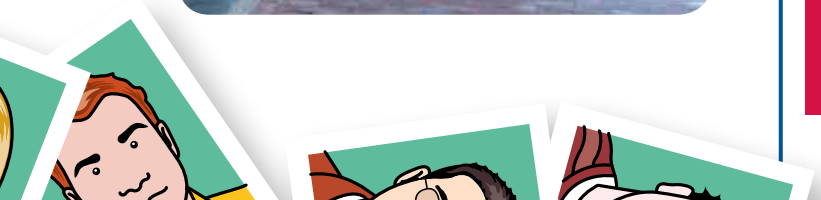
Question Time
How much of my time is devoted to studio and project work?
Approximately 50% of time is devoted to studio and project work.

How helpful is it to have Design & Communication Graphics at Leaving Cert level?
Design and Communication Graphics would provide a solid foundation for this programme.

What is the difference between Architectural Technology and Architecture?
Architectural Technology can be described as technical design while Architecture focuses on overall building design.



myCIT myCareer

Michael Wixted
Architectural Technician

After graduation, Michael began work with EML Architects and from the onset was working on multiple projects, completing construction drawings on residential apartments, submitting planning applications for school extensions and fire stations.

He is now working on a €30 million R&D facility. "Without a doubt, the education I received at CIT has provided me with an amazing start in my career field and is the reason why I have been able to excel at what I do."

Architectural Technology

CR 090 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science in Architectural Technology
Duration: 3 Years (6 Semesters)
Places: 36-40 (between CR 090 and CR 560)
CAO Points in 2011: **Round 1:** 300 / **Final:** 300

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Architectural Technology?

The Architectural Technologist is involved with the technical issues of the architectural design process and plays the role of a technical designer. S/he is a team player who provides an expertise in technical design principles and knowledge in the development of the built environment. S/he is an organiser and coordinator of the diverse disciplines involved in the design and construction process.

Helpful Leaving Certificate Subjects

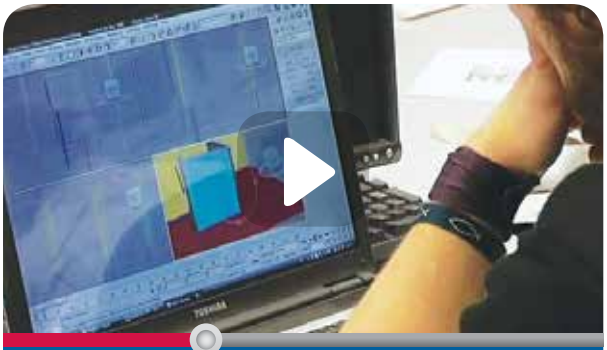
Art, Mathematics, English, Design and Communication Graphics, and a Science subject.

Potential Areas of Employment

- Private Practice
- Commercial
- Government Organisation
- Local Authority

myCIT myCourse

"The drawing modules take the form of 2D and 3D computer modelling and drawing and scaled model building thus expanding my knowledge of the Architecture."
Andrew O'Driscoll



www.cit.ie/course/CR090

Module Information
http://modules.cit.ie/cr090

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This is a studio-led course involving working drawings and other construction related projects, with a range of lectures and site visits designed to contribute to the student's comprehension and to the development of project work. Over the duration of the course, the student develops skills related specifically to Architectural Technology as well as an appreciation of the role and requirements of other members of the building team.

A graduate of Architectural Technology is a critical member of the Design Team, as s/he has an excellent appreciation and knowledge of the other Design Team discipline roles, and is involved in the coordination and development of a project at all stages.

Accreditation
This course is in the process of accreditation review by The Royal Institute of Architects of Ireland. This course qualifies for exemptions from the Chartered Institute of Building.

Further Studies
For details, see www.cit.ie

Subject to availability of places, suitably qualified graduates are eligible to apply for entry to Year 4 (final) of
→ Bachelor of Science (Honours) in Architectural Technology

The course also maintains co-operative links with other construction-related courses within the Institute and in other colleges.

Career Opportunities
Graduates may specialise in certain building typologies or concentrate on a particular area such as technical design, technology, architectural conservation or project management. Graduates may work as part of a team in private practice, or in the architectural section of a commercial organisation or a Government Department or Local Authority.

Contact Information
Katherine Keane
Department of Architecture
T: 021 432 6588
E: katherine.keane@cit.ie

Question Time
How much of my time is devoted to studio and project work?
Approximately 50% of time is devoted to studio and project work.

How helpful is it to have Design & Communication Graphics at Leaving Cert level?
Design and Communication Graphics would provide a solid foundation for this programme.

What is the difference between Architectural Technology and Architecture?
Architectural Technology can be described as technical design while Architecture focuses on overall building design.

myCIT myCareer

Siobhán Keating
Architectural Technician / Associate

Siobhán is an Associate with O'Riordan Staehli Architects with particular expertise and responsibility for Fire & Safety on all projects.

"My Degree gave me a strong technical foundation with excellent drafting skills, detail design, and architectural appreciation. This is a challenging and interesting career. I work very closely with all members of the Design Team – Clients, Quantity Surveyors, Engineers and Contractors, ensuring that the full coordination of all the building elements complements the building design."

Interior Architecture (Honours)

CR 565 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Science (Honours) in Interior Architecture
Duration: 4 Years (8 Semesters)
Places: 40 (between CR 565 and CR 053)
CAO Points in 2011: **Round 1:** 300 / **Final:** 300

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Interior Architecture?

Interior Architecture involves the design of interiors of buildings, their layout and space planning, fitting, technical and structural resolution, furnishing and decoration, and the preparation of all technical drawings and written documentation, necessary for the carrying out of the work.

Helpful Leaving Certificate Subjects

Art, English, Mathematics, Design and Communication Graphics, and a Science subject.

Potential Areas of Employment

- Private Practice
- Commercial
- Government Organisation
- Local Authority

myCIT myCourse

"This course encouraged me to find my creative identity through the mediums of hand drawing, model making, and computer rendering. The lecturers are passionate about the course and treated me as a person with opinions while guiding me to achieve my best."
Liam Hickey

www.cit.ie/course/CR565

Module Information
http://modules.cit.ie/cr565

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Interior Architecture is specific to a building's interior. It stands at the intersection of Architecture, design of the built environment, sustainability, and conservation. Unlike interior design, it is architecture within the confines of an existing building. As such, the course requires a level of technical competence to compare with that of the architect, as the responsibilities to the client and community are similar.

Interior Architecture involves the design of interiors of buildings, their layout, fitting, furnishing and decoration and the preparation of all technical drawings and written documentation necessary for the carrying out of the work. The design work of the Interior Architect includes domestic, commercial, leisure, retail, educational, and healthcare interior projects. Interior architectural design encompasses many types of interiors and utilises accompanying skills.

At CIT, Interior Architecture covers the spectrum of industry specialisms. It involves the initial design and plan for use to accommodate a changed purpose, or a significantly revised design for adaptive reuse of the building shell. It considers structural adaption, sustainable redevelopment strategies, the use of light, air movement, ventilation, horizontal/vertical circulation, and servicing. The practice of Interior Architecture responds to multiple user needs and a wider social responsibility.

The core of this programme is the design studio where skills in design and representation are integrated with mastery of content from other modules. The emphasis is the development of strong commercial design and analytical skills in a studio-based environment.

Modules in the award stage of the Honours Degree will include a comprehensive Design Project, as well as modules in the areas of Conservation; Sustainability; Research Methods; and Professional Practice.

Accreditation
This course is in the process of accreditation review by the Engineering Construction Industry Association (ECIA). This course is fully accredited by the Chartered Institute of Building.

Further Studies
Attractive postgraduate opportunities at Master's and PhD level in allied disciplines are available in Ireland and abroad.

Career Opportunities
This course qualifies graduates to work in architectural practice, interior design firms, and allied disciplines in the capacity of Interior Architect as a designer with a developed area of focus and expertise or in entry management positions.

The graduate will be proficient in the master-planning, spatial design and the materiality of complex interior schemes that involve multiple floors and mixed uses. The graduate is also oriented to commercial architectural practice with a strong understanding of sustainable design. The graduate will be able to develop designs and their attendant working drawings, and will deal with contractors, suppliers, and local authorities. The graduate may also select self-employment after a suitable period of practical experience.

Contact Information
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Question Time
How much of your time is devoted to studio/project work?
Approximately 50% of time is devoted to studio and project work.

What is the difference between Interior Architecture and Architectural Technology?
Interior Architecture includes aesthetic design of all interior aspects of a building. Architectural Technology can be described as technical design.

Am I qualified as an Interior Designer?
This programme is designed to graduate candidates who will practice in Interior Architecture which includes interior design.

myCIT myCareer

Donal Sheehan
Architectural Designer

"I am currently working in New York City for Reveal Design Group. My responsibilities as an architectural designer involves working on all phases of design, including pre-design, schematic design, design development and construction documentation. I'm also directly involved in establishing the company's brand through the use of social media, and initiating the development of an internship programme.

I am a team member of the following design projects: the Andaz Resort in Costa Rica, a town house overlooking Central Park, the Westin Hotel in Times Square, the retrofit of a yacht on the Hudson and the lighting design for Tadao Andos Morimoto restaurant in Soho."

Interior Architecture

CR 053 Level 7 Award

>> Progression to Honours Degree

Application: CAO
Award Title: Bachelor of Science in Interior Architecture
Duration: 3 Years (6 Semesters)
Places: 40 (between CR 053 and CR 565)
CAO Points in 2011: **Round 1:** 250 / **Final:** 250

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Interior Architecture?

Interior Architecture involves the design of interiors of buildings, their layout and space planning, fitting, technical and structural resolution, furnishing and decoration, and the preparation of all technical drawings and written documentation necessary for the carrying out of the work. The design work of the Interior Architect includes domestic, commercial, leisure, retail, educational and healthcare interior projects. Interior architectural design encompasses many types of interiors and utilises accompanying skills.

Helpful Leaving Certificate Subjects

Art, Construction Studies, and Design and Communication Graphics.

Potential Areas of Employment

- Private Practice
- Commercial
- Government Organisation
- Local Authority

myCIT myCourse

"I really enjoy my course, it's challenging but fun. It is very hands-on and demanding at times but it will be worth it in the end. The support from the lecturers and the department is excellent."
Siobhán Granfield

www.cit.ie/course/CR053

Module Information
http://modules.cit.ie/cr053

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course qualifies graduates to work in architectural and interior design firms, in junior management positions, and prepares the individual to choose self-employment after a suitable period of practical experience.

This mainly studio based course is taught through formal lectures and tutorials. It has a significant amount of time allocated to studio and project work. There is a high technical input, supplementing the design drawing and presentation content.

Accreditation
This course is in the process of accreditation review by the Engineering Construction Industry Association (ECIA). This course qualifies for exemptions from the Chartered Institute of Building.

Further Studies
For details, see www.cit.ie

Subject to availability of places, suitably qualified graduates are eligible to apply for entry to Year 4 (final) of
→ Bachelor of Science (Honours) in Interior Architecture

Career Opportunities
This course qualifies graduates to work in architectural practice, interior design firms, and allied disciplines in the capacity of Interior Architect as a designer with a developed area of focus and expertise or in entry management positions.

The graduate will be proficient in the master-planning, spatial design and the materiality of complex interior schemes that involve multiple floors and mixed uses. The graduate is also oriented to commercial architectural practice with a strong understanding of sustainable design. The graduate will be able to develop designs and their attendant working drawings, and will deal with contractors, suppliers, and local authorities. The graduate may also select self-employmnet after a suitable period of practical experience.

Contact Information
Kevin Busby
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T: 021 433 5971
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Katherine Keane
Department of Architecture
T: 021 433 5970
E: katherine.keane@cit.ie

Question Time
How much of your time is devoted to studio/project work?
Approximately 50% of time is devoted to studio and project work.

What is the difference between Interior Architecture and Architectural Technology?
Interior Architecture includes aesthetic design of all interior aspects of a building including technical resolution.

Architectural Technology can be described as technical design.

Am I qualified as an Interior Designer?
This programme is designed to graduate candidates who will practice in Interior Architecture which includes interior design.

What is the difference between Interior Architecture and Interior Design?
Interior Architecture is specific to a building's interior. It stands at the intersection of Architecture, design of the built environment, sustainability, and conservation. Unlike interior design, it is architecture within the confines of an existing building. As such, the course, requires a level of technical competence to compare with that of the architect, as the responsibilities to the client and community are similar.

myCIT myCareer

Breeda O'Donoghue
Senior Designer

Breeda works with Houseworks Cork as a Senior Designer. Working exclusively with SieMatic Kitchens, Breeda began work with six months post-qualification training in Dublin, before joining the Cork showrooms as its only designer.

Breeda has earned a wealth of experience in dealing with private and commercial projects alike. Her work ranges from presenting the SieMatic range in the showroom to preparing detailed design layouts for prospective clients. Breeda was awarded Young Designer for Kitchens by the Bathrooms & Kitchens Industry Awards in the UK in 2005.

Craft Technology (Wood) with Business

CR 077 Level 7 Award

Application: CAO
Award Title: Bachelor of Science in Craft Technology (Wood) with Business
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **New Course Entry 2012**

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Craft Technology (Wood) with Business?

Craft Technology is focused on practical skills as well as knowledge of technology used in current building practice. There are a number of aspects to Craft Technology: sustainable building techniques, conservation, building information modelling, and practical skills in roofing and joinery all blended with core business and management comprehension. The Business element will assist you in starting up your own business.

Helpful Leaving Certificate Subjects

Business Studies, Construction Studies, Design & Communication Graphics, and Woodwork.

Potential Areas of Employment

- Carpenter/Joiner
- Foreman
- Business Owner
- Project Manager

www.cit.ie/course/CR077

Module Information
http://modules.cit.ie/cr077

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course develops the core technical skills in the specific areas of building technology, business knowledge, design and woodworking skills. Building technology covers the various aspects of technology that make up the fabric of a building, from passive housing details to pneumatic systems.

The focus on workshop skills develops key problem solving techniques, creative abilities and leadership proficiencies in real time, with solutions designed, tested and used on scale model examples. The development of these talents are enhanced over three years, each year expanding on the knowledge and skills of the previous year, developing a comprehensive understanding of timber as a building medium, and how to best use it as a component part of the building envelope.

Modules include Carpentry where you will design, draw and make various types of roofs from basic 'A' Frame to complex Octagonal based turrets.

Joinery will have projects, for example, designing and making doors and windows of traditional and modern types. It also includes designing and making scale model stairs. Building Technology will discuss and highlight different principles behind the different materials used in the fabric of building as well as explaining the newer technologies currently influencing building today.

The Business element includes basic accounting techniques, management theory and practice. A module on Entrepreneurship will take you through the steps involved in starting up your own business.

Career Opportunities
Graduates of this Degree programme will have the skills and competences to enter managerial levels within the construction industry or to become self-employed in a traditional craft area using entrepreneurial skills acquired during this programme.

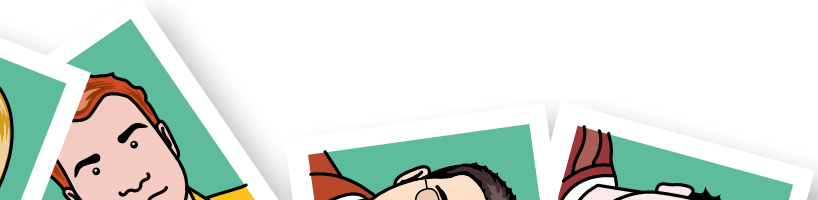
Contact Information
Thomas Murray
Centre of Craft Studies
T: 021 432 6767
E: thomas.murray@cit.ie

Question Time
If I haven't studied woodwork in the Leaving Certificate, will I be at a disadvantage?
No, the course is designed to take a learner from the basics to complex skill level in Carpentry & Joinery over three years.

Is the class size small and are the exams based on continuous assessment?
Class sizes are limited to 20 due to workshop space. Assessments vary from subject to subject but most begin in week six and are project based.

Are all the materials supplied by CIT?
Yes, all class materials are supplied by CIT, however, this does not include books or extra material involved in the production of your final project.

Will I have an opportunity to enter the National Skills Competition?
No, currently the National Skills Competition is open to apprentices studying a Level 6 Advanced Certificate.



Chemical & Biopharmaceutical Engineering (Honours)

CR 105 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Chemical & Biopharmaceutical Engineering
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 395 / **Final:** 395

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	C3 (H) or (Note 1)	D3 (O/H)

Note 1: The requirement for HC3 Mathematics may also be satisfied by HC3 in Applied Mathematics plus HD2 in Mathematics.

What is Chemical & Biopharmaceutical Engineering?

Chemical Engineering is all about change; creating life-enhancing products and services by applying scientific and mathematical understanding to design, control and improve processes that change raw materials into useful products. Chemical Engineers are world leaders in producing medicines, clean energy and water and other key products in a cost effective, safe and environmentally-friendly manner.

Helpful Leaving Certificate Subjects

Mathematics, Chemistry, Biology, Physics, and Applied Mathematics. We recommend that you have two of the three science subjects.

Work Placement

A salaried placement at the end of Year 3 is spent either in industry or with a consultancy (subject to availability).

Potential Areas of Employment

- Pharmaceuticals & Biopharmaceuticals
- Food & Beverages
- Oil & Gas
- Energy & Environment
- Building Products
- Consultancy

myCIT myCourse

"I've found the course to be diverse, challenging and genuinely interesting. The practical approach taken combined with the supportive learning environment equipped me with the tools necessary for life after college."
Brian Scully

www.cit.ie/course/CR105

Module Information
http://modules.cit.ie/cr105

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Chemical Engineering is ideally suited to students with ability in mathematics and science, who enjoy problem solving and aspire to well-paid, satisfying jobs at home and abroad. With 30 years experience, we have demonstrated that fulfilling, world-class, careers can be achieved by graduates.

Lectures are supplemented by laboratory sessions, project work and team exercises. The course is comprehensive, addressing sectors from heavy chemicals like oil and gas to high value products like pharmaceuticals, as well as issues like energy efficiency, waste minimisation and environmental protection, all in the context of safe and sustainable operations.

Also visit: www.whynotchemeng.com and www.cit.ie/chemeng

Accreditation
The Honours Degree course is accredited by Engineers Ireland and by the Institution of Chemical Engineers which means that the Degree is internationally recognised and transferrable. Such accreditation endorsements commence your process to becoming a Chartered Engineer once you have gained appropriate experience.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT:
- → MEng in Chemical and Biopharmaceutical Engineering (Taught)
- → MEng (by Research)
- → PhD

Career Opportunities
With nearly 30 years of graduates, alumni may be found in North America, Australia, and the Far East, at levels from vice-president of corporations to recent hires. Many of the graduates remain in technical support roles, others develop into managerial positions as production, engineering, human resources and general managers. The 'typical' graduate is engaged in the region, in the greater Munster area, in the pharmaceutical and biopharmaceutical sector. Starting salary for chemical engineers is usually the highest of all engineers, reflecting the world-wide demand for their skills.

Contact Information
Dr Michael J. O'Mahony
Department of Process, Energy and Transport Engineering
T: 021 433 5943
E: michael.jomahony@cit.ie

Question Time
How proficient at Mathematics should I be?
As with all engineering programmes, Mathematics is used as a tool to communicate ideas and to solve problems so you should be comfortable with Mathematics.

Can I pursue a career in pharmaceuticals?
Many graduates pursue careers in the fine chemical, pharmaceutical and biopharmaceutical industries where they are involved with plant design, commissioning, operations and optimisation.

Who will be teaching me?
The lecturers are Chemical Engineers and most have spent significant amounts of time working in the Process Industry, and as a result can bring real life experiences to the classroom.

Will I have lectures where there are hundreds of other students?
CIT prides itself on the fact that all courses are taught in a small class environment (typically 30 students per class), ensuring that students have every opportunity to interact with their lecturers and succeed in their studies.

myCIT myCareer

Caroline Barry
Senior Chemical & Process Engineer

Caroline worked as a Chemical and Process Engineer at Schering Plough (Brinny). "I've had brilliant opportunities to travel," she says, citing opportunities to visit the company's plants in New Jersey, Singapore, and Puerto Rico.

She has now moved to Glaxo SmithKline, Co Cork. "The best part of the job," she adds, is that "it's very challenging the whole time. You are always thinking about improving and optimising. We are trying to save money at the end of the day. You are constantly thinking from a safety point of view and an environmental point of view."

Sustainable Energy (Honours)

CR 510 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Sustainable Energy
Duration: 4 Years (8 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 330 / **Final:** 330

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Sustainable Energy?

Sustainable Energy involves the understanding and application of the engineering and technological principles of energy conversion and use.

Helpful Leaving Certificate Subjects

Mathematics, Physics, Engineering, Design and Communication Graphics, and Applied Mathematics.

Work Placement

There is work placement for a minimum of 10 weeks in Year 3.

Potential Areas of Employment

- Energy Management
- Energy Systems Design
- Energy Project Management

myCIT myCourse

"The diverse range of modules allows numerous opportunities to experience different aspects of energy engineering and the skills required in the industry."
Ronan Humphreys

www.cit.ie/course/CR510

Module Information
http://modules.cit.ie/cr510

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Attention is given to component scale and systems design along with efficient management, control and measurement of energy supply systems. The first two years of the course introduce and develop the fundamental components of an engineering discipline. The third and fourth years extend the specialist nature of the course.

Regarding work placement, the student will be placed in an energy related industry, consultancy, government agency (SEI), or research group. The placement will be assessed by means of presentations, reports and research project development. There may be opportunities for students to spend this period abroad on a European exchange programme.

Accreditation
This programme is accredited at undergraduate level by the Energy Institute which enables graduates to progress towards Chartered Engineer.

Further Studies
For details, see www.cit.ie

Honours Degree holders who achieve the specified level of academic performance are eligible to apply for a postgraduate course of study, both at CIT and at other third level colleges in Ireland and abroad.

Career Opportunities
The energy sector is experiencing a skills shortage in terms of the availability of graduate engineers with knowledge and working experience of energy use, management, and planning. Positions within the energy sector include; Energy Management, Energy Systems Design, Energy Project Management, Energy Component Design, Energy Consultant Support, Systems Engineering and Power Engineering.

Contact Information
Chris Gibbons
Department of Process, Energy and Transport Engineering
T: 021 433 5428
E: chris.gibbons@cit.ie

Question Time
Is there a shortage of graduates in the Sustainable Energy field?
Yes. Globally there is shortage of Engineers who specialise in Energy Engineering.

What kind of Energy Systems do we have at CIT?
- 2.4kW Wind Turbine
- Wind Monitoring Masts
- Solar Thermal Collectors
- Artificial Sky Unit
- EV Charging Point
- Zero Energy Building Retrofit
- 4 Wheel Rolling Road and Engine Test Bed
- CIT/UTRC Low Energy Building Test Bed

myCIT myCareer

Julie McGrath
Graduate Engineer

Julie completed a Level 7 Degree in Civil Engineering and transferred into Year 3 of the BEng in Sustainable Energy Degree in 2008.

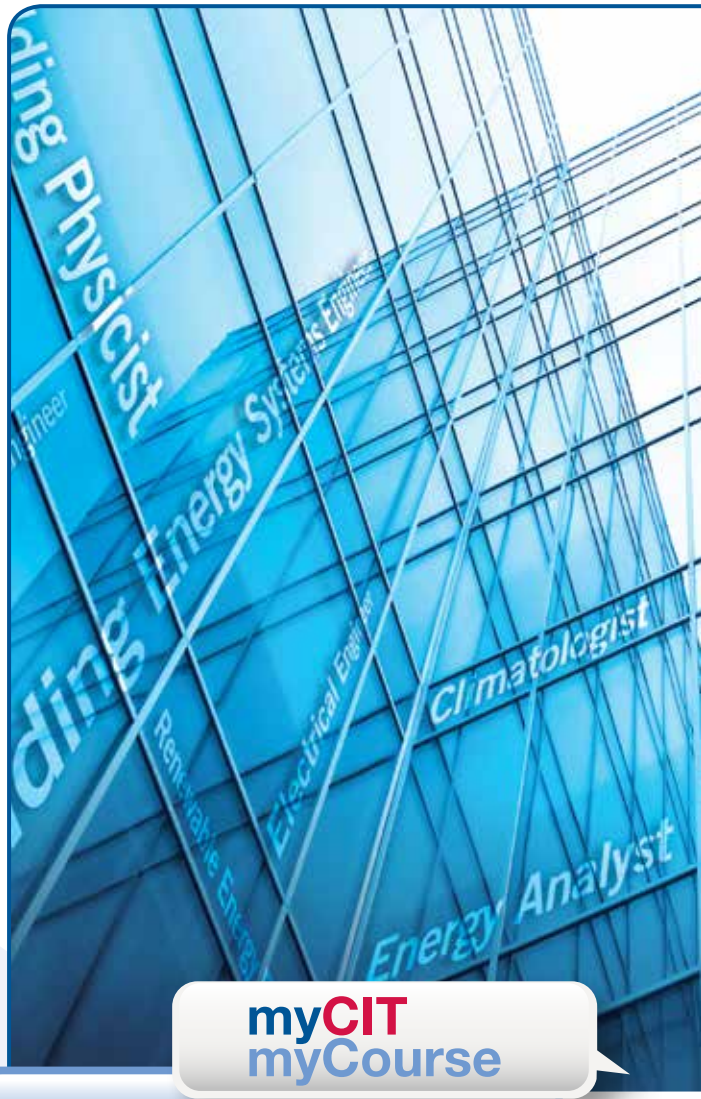
She completed 6 months work placement in Chris Mee Safety Engineering which involved gaining a working knowledge of the new Standard (ISO 14064), for Greenhouse Gas Management or Carbon Footprint measurement.

Julie undertook a final year project in Wind Energy and graduated in 2010. Julie now works for Bord Gáis as a graduate engineer.

Building Energy Systems (Honours)

CR 522 Level 8 Award

>> Progression to Postgraduate Programmes



Application: CAO
Award Title: Bachelor of Engineering (Honours) in Building Energy Systems
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **New Course Entry 2012**

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Building Energy Systems?

Building Energy Systems Engineers provide the complete energy solution for a building, whether that building is an office, a sport and leisure complex or a biomedical research facility. The complete energy solution includes determining how much energy the building requires, finding the best sources of this energy, and complying with all emissions and renewable energy regulations.

It involves the design of all the heating, ventilation, air conditioning, lighting, communications, and hot & cold water systems (to name but a few) whilst minimising energy consumption to run these systems.

This is not as easy as it sounds, because it means you need to be part building physicist (to understand how materials in a building react to heat), part mechanical engineer (to design the piping and ducting systems), part electrical engineer (to design the wiring systems), part energy analyst (to assess new low energy technology and review energy markets) and part diplomat to try and get the architects, structural engineers, the client, and equipment suppliers to buy into your designs.

myCIT myCourse

"The course has improved my understanding of how to model energy use and conserve energy within a building which will play a major role in the future."
Patrick Cleary

Helpful Leaving Certificate Subjects

Mathematics, Physics, Engineering, Chemistry, and English.

www.cit.ie/course/CR522

Work Placement

There is a minimum of 10 weeks work placement in Year 3.

Module Information
http://modules.cit.ie/cr522

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

Potential Areas of Employment
- Design of new low energy buildings systems
- Retrofit of renewable energy technologies to existing buildings
- Energy analysis in buildings to reduce future energy demand
- Project Management of multi-million euro mechanical and electrical services installations

About the Course
The aim of the programme is to provide students with the tools and skills necessary to calculate, analyse and forecast energy usage within the built environment, both for new and existing building stock, whether it be an office, a semiconductor clean room or a sports stadium.

There is a strong emphasis placed on energy and how the various energy streams within a building/facility interact. This requires rigorous thermal analysis and fluid dynamic analysis. Models are developed through the course ranging from the simplest hand calculations, to more complicated models requiring spread sheet packages and finally to commercially available state-of-the-art modelling packages.

Each academic year is split into two semesters. Modules are grouped into streams that run over the four years: Energy Demand & Analysis, Mechanical Systems Design, Electrical Systems Design, Engineering Science, IT, Projects, Mathematics, and Elective Modules.

The work placement will familiarise the student with work practices and procedures and it provides the opportunity to observe the practical application of theoretical knowledge gained on the programme. The placement is supported by a member of academic staff in CIT together with a workplace mentor. The aim of the industrial placement is to introduce the student to structured employment in a relevant work sector and to develop the student's understanding of the organisation, its procedures, and technology.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to progress to taught Masters' programmes or to research at either Master's or PhD level.

Career Opportunities
Students develop the ability to integrate building physics, climate science, thermal comfort criteria, building services design and energy systems delivery into the design process, all underpinned by the use of sophisticated computer simulation. Engineers with these skills are always in demand to service new project design and an increasing retrofit market, as managers in every facility worldwide constantly review expenditure on primary energy and seek out new low energy technology and systems.

Contact Information
Fergus Delaney
Department of Process, Energy and Transport Engineering
T: 021 433 5426
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Question Time
Has the course professional accreditation?
This is a new course, first run in 2010, and it has not yet been subject to accreditation by Engineers Ireland. The course is expected to be accredited by Engineers Ireland for membership at Associate Engineer level.

Is working as a Building Energy Systems Engineer a challenging career?
Engineers charged with the design of building energy systems, lead the challenge in reducing future energy demand and CO_2 emissions. They are perfectly placed to provide the largest impact in energy reduction strategies. They constantly have to look beyond current legislation and standards and push the boundaries in using emerging low energy and renewable technologies.

Are you qualified to be a BER Inspector Assessor?
No, the core material for the building energy rating procedure is covered but some additional study and assessment is required to qualify as a BER Assessor.

myCIT myCareer

Nazar Baker
Postgraduate Student

"I graduated from University of Basrah, Iraq, with a Degree in Mechanical Engineering. I came to Ireland and worked for 5 years in engineering companies involved in cooling and air conditioning.

My primary Degree and work experience allowed me to enter the final year of the BEng in Building Energy Systems. I am now undertaking a Master by Research in CIT in the area of energy reduction strategies in pharmaceutical clean room environments."

Building Services Engineering

CR 072 Level 7 Award

>> Progression to Honours Degrees

▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Building Services Engineering
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 250 / **Final:** 250

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Building Services Engineering?

Building Services Engineering involves the design of the services that allow people to function within an enclosed structure such as an office block, a sports centre, a shopping centre, a hi-tech factory or a hospital. Building Services Engineers optimise the interaction between building fabric performance and human comfort. This requires the design of systems that can maintain an internal environment with the correct air quality, lighting levels and heating/cooling levels. All of these must be delivered in the most environmentally sustainable way. The course encompasses topics such as thermal performance of buildings, human comfort, external climate, air conditioning and ventilation design, heating systems, hot and cold water, electrical power and distribution, and renewable energy systems.

Helpful Leaving Certificate Subjects

Mathematics, Physics, Engineering, and Chemistry.

Potential Areas of Employment

- Assistant Design Engineer
- Site based Engineer
- Commissioning of installed systems for handover to the client
- Sales Engineer
- CAD Technician
- Estimator for Mechanical and Electrical Services

myCIT myCourse

"CIT has definitely given me a good base in engineering knowledge which is going to be very beneficial in the future and in my development as a Building Services Engineer."
Alan O'Flynn

www.cit.ie/course/CR072

Module Information
http://modules.cit.ie/cr072

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course covers the fundamentals of Building Services Design. Students need a firm grounding in the fundamentals of engineering science before they can undertake engineering design. First year is structured to deliver these fundamentals through a range of modules such as Thermofluids, Mechanics, and Electrical Technology. It is essential that engineers can communicate their ideas and designs effectively. These practical skills are developed in the Creativity, Innovation & Teamwork module, and the Computer Aided Design (CAD) module.

In Year 2 and Year 3 students focus on the core design elements of Building Services. This typically involves the design of heating systems, ventilation systems, water systems, electrical power systems, electrical distribution systems and lighting systems. Incorporation of renewable technologies into the design is essential. A major Building Services design project in Year 3 allows the students to demonstrate their design ability as well as their project management skills.

Further Studies
For details, see www.cit.ie

Degree holders who achieve the specified level of academic performance are eligible to apply for entry to:
Year 4 of
→ Bachelor of Engineering (Honours) in Building Energy Systems
or the one year add-on
→ Bachelor of Science (Honours) in Process Plant Technology
or Year 3 (carrying exemptions) of
→ Bachelor of Engineering (Honours) in Sustainable Energy

Career Opportunities
Graduates can join consulting engineering companies. They are employed as an assistant engineer and are mentored by a senior engineer as they further develop their skills in the design of building services systems from concept stage to construction stage. Graduates then progress to the lead design engineer either on mechanical or electrical systems. From there they advance to engineering manager, ultimately responsible for a design team.

Graduates also join Mechanical and Electrical Contracting companies. These companies are responsible for the installation, testing, and handover of building services systems. Graduates would typically start as an assistant to a senior site engineer. They learn the project management skills necessary to run a multimillion euro project including planning a project over a year, purchasing of main plant (boilers, pumps, air handling units, transformers etc.) and solving day to day engineering problems associated with installing large piping, ducting and electrical systems, liaising with architects, structural engineers and clients. These engineers can progress quickly to Project Managers responsible for all aspects of the project (financial and technical).

Other career paths include commissioning engineering equipment design, equipment sales, and CAD technicians.

Contact Information
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Department of Process, Energy and Transport Engineering
T: 021 433 5426
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Question Time
Has the course professional accreditation?
The course is accredited by Engineers Ireland for membership at Associate Engineer level.

Are you qualified to be a BER Inspector Assessor?
No, the core material for the domestic building energy rating procedure is covered but some additional study and assessment is required to qualify as a BER Assessor.

Is this course about construction of buildings?
No, this course is about evaluating the performance of buildings and the design of the mechanical and electrical systems for buildings. There is some construction covered to enable students to evaluate the heat loss in winter and solar heat gain in summer associated with different types of wall, roofs, and glazing systems.

What type of projects do Building Services Engineers get involved in?
Systems need to be designed for new and existing houses, new and existing commercial buildings, biomedical research and production facilities, computer chip cleanrooms, hospitals, museums, art galleries, airports etc.

Is there much variety in the work?
Yes, projects typically last about a year. Each job has new challenges and new problems to solve.

myCIT
myCareer

Paul O'Sullivan
Building Services Engineer

Paul has worked with engineering firms on projects in Athens, Paris, Brussels, and Amsterdam and has worked for PM Group on large scale Biotechnology projects.

He has spent time with Varming Engineers designing a number of low energy sustainable building projects. He was responsible for building energy analysis and systems design.

Paul now lectures on the Building Services Engineering course at CIT.

Transport Management & Technology

CR 046 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Science in Transport Management and Technology
Duration: 3 Years (6 Semesters)
Places: 40
CAO Points in 2011: **Round 1:** 225 / **Final:** 225

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Transport Management & Technology?

Motor vehicle technology and the motor industry in general have undergone dramatic changes in recent times. Technological advances have made vehicles more efficient, more environmentally friendly, and safer, whilst at the same time strict standards are being enforced by manufacturers, distributors and retailers.

The motor and transport industries require highly qualified people at supervisory and management level. This course is designed to take account of these advances and it prepares graduates for employment within such a dynamic industry.

Helpful Leaving Certificate Subjects

Engineering, Physics, and Business.

Potential Areas of Employment

- Motor Dealerships: Sales and After-Sales Departments
- Transport and Logistics Companies
- Motor Vehicle Distributor Organisations
- Motor Vehicle Assessors

myCIT myCourse

"I have had an interest in motor vehicles for a long time and want to pursue a career in the Motor Industry. I enjoy the course and would recommend it to anyone interested in working in the Motor or Transport Industry."
Raymond Doherty

www.cit.ie/course/CR046

Module Information
http://modules.cit.ie/cr046

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course has a unique combination of theoretical and applied areas of study in conjunction with relevant business subjects. In short, the course provides the basis for a successful career within the motor and transport industries.

The course is taught through a combination of lectures, practical work and assignments related to practical aspects, e.g. motor vehicle technology, garage practice, automobile electronics, advanced diagnostics, CAD/vehicle design, etc. Work placement is incorporated for those who progress to the Honours Degree.

Further Studies
For details, see www.cit.ie

Degree holders who achieve the specified level of academic performance are eligible to apply to
→ Bachelor of Science (Honours) in Transport Management

Career Opportunities
This Degree provides varied and rewarding career opportunities in many types of enterprise throughout the industry ranging from motor dealerships to vehicle manufacturing and transport companies. Employment opportunities include supervisory, management and technical positions within sales and after-sales sectors of the motor, transport, and fleet industries. The Degree lends itself towards a career within vehicle distributors/ manufacturers along with vehicle assessing. Business start-up opportunities are also possible.

Contact Information
Clive Atkinson
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Question Time
Can I become a motor mechanic from the course?
No, to become a motor mechanic requires registration with FÁS and completing an apprenticeship, however, some graduates have used their Degree qualification to gain exemptions from initial phases of an apprenticeship (this is at the discretion of FÁS).

Is there work placement in Ireland or abroad during the course?
Work placement is incorporated for those who progress to the Honours Degree course.

myCIT myCareer

Patrick Hourihane
Transport Manager

"In 2010, I completed my BSc in Transport Management & Technology in CIT and I continued there to obtain my BSc (Honours) in Transport Management in 2011.

I got a job straight away with Creedon Transport as a Transport Manager. I use the skills I learnt in CIT on a daily basis when dealing with our customers in Ireland and the UK. It's a challenging and enjoyable position to have."

Good Manufacturing Practice & Technology

Level 6 Award

>> Progression to Bachelor Degree

Application: Direct to CIT. Application forms are available from the Department of Process, Energy & Transport Engineering.
Award Title: Higher Certificate in Science in Good Manufacturing Practice & Technology
Duration: 17 months
Places: 25

Entry Requirements

Applicants under the age of 23 must have obtained at least 5 passes at Ordinary Grade D3 in the Leaving Certificate Examinations to include English and Mathematics. Alternative Mathematics does not qualify applicants on this basis.

Applications are welcome from mature students, over 23 years of age by 1st January of year of entry. Leaving Certificate is desirable but not essential. Relevant work experience; skills gained through experiential learning; and other qualifications, will be considered when assessing applications.

What is Good Manufacturing Practice & Technology?

Good Manufacturing Practice (GMP) is that part of quality assurance which ensures that medicinal products and medical devices are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the marketing authorisation or product specification.

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"I found the course to be hugely beneficial and it directed me to my future career in Alcon Laboratories, I found it to be very applicable in the workplace."
Justin Twohig

Helpful Leaving Certificate Subjects

Maths, English, Chemistry, Physics, and Biology.

www.cit.ie/course/CRSGMPR6Y1

Work Placement or Project

There is a 5 month work placement from June to October.

Potential Areas of Employment

- Production
- Quality Assurance
- Validation
- Cleanroom Management

Module Information
http://modules.cit.ie

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course emphasises Good Manufacturing Practice (GMP) & Technology targeting the Pharmaceutical, Biopharmaceutical and Medical Devices manufacturing sectors. The principal aim of this course is to provide a nationally accredited educational programme in Good Manufacturing Practice and Technology for people keen to work in production, quality assurance or validation roles within leading Pharmaceutical/ Biopharmaceutical and Medical Devices manufacturing companies.

The course is delivered by lectures and laboratory practicals, with site visits incorporated into each semester's delivery. Modules are assessed by continuous assessment and end of semester exams. Seven of the modules are assessed entirely by continuous assessment.

The placement programme will familiarise the student with work practices and procedures and provide him/her with the opportunity to observe the practical application of theoretical knowledge gained on his/her programme. The placement is supported by a member of academic staff in CIT together with a workplace mentor. The aim of the industrial placement is to introduce the learner to structured employment in a relevant work sector and to develop in the learner an understanding of the organisation, its procedures and technology.

The project affords the student an opportunity to apply his/her learning from the course in a practical situation.

Cost
Student services, registration and examination fees may apply, depending on circumstances of the student. No tuition fees are payable except by certain categories of student.

Note: The Third-Level Training Grant administered by local VEC offices is available for eligible students. The course is also recognised under the Back to Education Allowance Scheme which in certain circumstances permits those participants in receipt of social welfare payments to retain these payments while completing the course.

Further Studies
For details, see www.cit.ie

Graduates holding the Higher Certificate in Science in Good Manufacturing Practice & Technology, or equivalent, are eligible to apply to the part-time add-on Degree in

→ Bachelor of Science in Good Manufacturing Practice & Technology

Contact Information
Elaine Burke
Department of Process, Energy and Transport Engineering
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E: elaine.burke@cit.ie

Question Time
I have some previous experience with the Pharmaceutical industry, can I apply for an exemption from some modules?
Applicants who have appropriate experience and knowledge of the Pharmaceutical, Biopharmaceutical or Medical Devices industries may be considered exempt from examination of some modules upon providing evidence via the Recognition of Prior Learning (RPL) scheme of the Institute, see www.cit.ie/rpl.

Will I be able for the academic requirements of the course?
CIT offers a wide range of supports for students to enable them to be successful in their studies.

Does this course have a high mature student intake?
The course mainly attracts mature students from a wide variety of backgrounds.

Should I have studied science in secondary school before taking this programme?
No, while it is helpful, you can take the programme and be successful without having studied science to Leaving Certificate. Do expect to have coursework to complete after lectures in the evenings.

myCIT myCareer

Michael McEvoy
Production Support

The course is designed to give students the best opportunity to prepare for industry with lots of lab practicals, team projects, and plant tours.

My work placement was with Janssen Biologics where I acquired great knowledge and experience. After graduation, I returned to the company in a production support role.

I am currently studying for a BSc in Good Manufacturing Practice & Technology on a part-time basis.

Mechanical Engineering (Honours)

CR 108 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Mechanical Engineering
Duration: 4 Years (8 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 350 / **Final:** 345

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	C3 (H) or (Note 1)	D3 (O/H)

Note 1: The requirement for HC3 Mathematics may also be satisfied by HC3 in Applied Mathematics plus HD2 in Mathematics.

What is Mechanical Engineering?

Mechanical Engineering involves the design, manufacture and operation of products that have motion or have internal moving parts. This ranges from the design and manufacture of high performance engines, machines with atomic level precision to aircraft, wind turbines, major power plants and process equipment to the construction, commissioning and maintenance of industrial, chemical, pharmaceutical and food processing plants.

Helpful Leaving Certificate Subjects

Mathematics, Physics, Applied Mathematics, Engineering, and Chemistry.

Work Placement or Project

There is a mandatory work placement of 10 weeks in Year 3.

Potential Areas of Employment

- Mechanical Design
- Medical Devices
- Manufacturing and Precision Engineering
- Process Plant
- Aerospace
- Project Engineering
- Offshore Oil and Gas

myCIT myCourse

"If you are willing to put in the effort and time, the benefits are endless due to the range of skills and diversity of job opportunities available. The majority of my class has secured prestigious graduate positions well in advance of our final examinations." **Martin Evans**

www.cit.ie/course/CR108

Module Information
http://modules.cit.ie/cr108

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Design and project work is a major feature of the course. In the final year, each student undertakes an individual project involving research, design, prototype development and experimental verification to meet a real need.

Honours Degree graduates generally gain employment as mechanical, design, manufacturing, production, process, plant, project or maintenance technologists/engineers. They work in fields such as aerospace, automotive, computer and electronic manufacture, machine and plant design, power generation, engine design, contracting and consulting.

Students have the option of work placement in industry in Ireland or abroad or in a research laboratory in Ireland or with one of our partner institutions abroad (France, Germany, Italy, UK, etc.).

Accreditation
This course is fully accredited by Engineers Ireland such that the student may proceed to Chartered Engineer status. Engineers Ireland represents all engineering disciplines in Ireland and is a member of Federation Europeene d'Associations Nationales d'Ingenieurs (FEANI) through which Irish engineers are recognised in Europe. Engineers Ireland is a signatory to the Washington Accord through which Irish engineers are recognised in USA, Canada, Australia, New Zealand, Hong Kong, South Africa, and UK.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT.
- → MEng in Mechanical Engineering (Taught)
- → MEng (by Research)
- → PhD

Career Opportunities
Mechanical Engineering is a broad-based discipline offering career opportunities in design, manufacturing, technical support in a wide range of industries including oil/gas, power generation, plant construction, medical devices, aerospace and automotive. Many mechanical engineers also progress into general management roles where their analytical skills are greatly valued.

Contact Information
Dr Lorraine Howard
Department of Mechanical, Biomedical and Manufacturing Engineering
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Question Time
What level of design is involved with Mechanical Engineering?
Design is the main focus of the programme and utilises all the modern computer-aided design tools for 3D solid modelling, stress analysis, system simulation etc. The Innovative Product Development modules in Year 3 enable students, working in teams, to bring a concept from the idea stage through to a finished prototype, considering the technical performance and commercial potential of their designs.

Can I progress to further studies?
Yes, many graduates have progressed to Masters (Taught) and to PhD research either in CIT or in other institutions in Ireland and across the world.

Has the Course professional accreditation?
Yes, see detailed informatio in column 1.

Are there opportunities to travel?
Undergraduates have the opportunity to travel as part of the Work Placement module in Year 3. Graduates from the programme are employed across the world. Though many graduates are based in Ireland their work involves travel to and communication with people and companies across the globe.

Are there any events I should attend to learn more about Mechanical Engineering?
CIT Bishopstown Campus hosts the Cork Mechanical, Manufacturing & Biomedical Engineering Annual Exhibition every April. Please see www.cit.ie for details.

myCIT myCareer

Connor Barry
Mechanical Engineer

Connor graduated with an Honours Mechanical Engineering Degree and was recruited by Abbott Ireland onto their Professional Development Programme (PDP). This programme identifies the highest performing graduates with leadership potential and provides participants an opportunity to apply their skills in different areas and divisions throughout Abbott during four rotations over a two year period.

Connor is presently based in Columbus (Ohio). In April 2012, Connor received the award of Graduate Employee of the Year at the GradIreland Awards.

Mechanical Engineering

CR 071 Level 7 Award

>> Progression to Honours Degrees & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Mechanical Engineering
Duration: 3 Years (6 Semesters)
Places: 80
CAO Points in 2011: **Round 1:** 275 / **Final:** 275

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Mechanical Engineering?

Mechanical Engineers play a crucial role in a wide range of industries, among them air, rail, sea and road. They are involved in high precision processes such as the design and manufacture of prosthetic devices and robotic mechanisms. The physical scale of their work ranges from nanoscale motors and pumps through to high speed trains, wind turbines, and rocket/vehicles for space exploration. Mechanical Engineering enables students to learn how to systematically design essential machine elements and using three dimensional computer aided design modelling software, to display and test these models.

Helpful Leaving Certificate Subjects

Mathematics, Physics, Applied Mathematics, Engineering, and Chemistry.

Potential Areas of Employment

- Design Technician/Engineer
- Plant Inspector/Quality Manager
- Manufacturing Technician/Engineer
- Technical Sales Engineer

myCIT myCourse

"A good portion of the course is practical which allows a nice balance with the more academic aspects. The modules complement each other building on a fundamental understanding year on year."
Mark Cummins

www.cit.ie/course/CR071

Module Information
http://modules.cit.ie/cr071

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
This course has a strong emphasis on the practical side of mechanical engineering, exposing the student to many "hands on" modules in workshops and laboratories. Modules on the course are grouped into streams that run over the three years: Workshop Practice, Mechatronics, Mechanical Design and Computer Aided Engineering, Mechanics, Thermofluids, Materials, Management, Projects, Mathematics and Elective Options. Graduates are prepared to progress to further study or to take up challenging and varied careers in industry.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for entry to:
the one year add-on
- → Bachelor of Science (Honours) in Process Plant Technology

or
- → Bachelor of Science (Honours) in Advanced Manufacturing Technology

A limited number of candidates may also be considered for entry to:
Year 3 (which necessitates two further years of study) of
- → Bachelor of Engineering (Honours) in Mechanical Engineering

or
- → Bachelor of Engineering (Honours) in Sustainable Energy

Career Opportunities
Mechanical Engineering is a discipline of Engineering that applies the principles of physics and materials science for analysis, design, manufacturing, and maintenance of mechanical systems. It is the branch of engineering that involves the production and usage of heat and mechanical power for the design, production, and operation of machines and tools.

Employment opportunities are in the high-tech manufacturing industries at technician engineer level dealing with design, production, manufacturing, quality, estimating, planning and the operation and maintenance of high-tech automated manufacturing equipment. Other opportunities are in technical and sales support with contracting, consulting engineers, and servicing companies.

Contact Information
Bernard O'Callaghan
Department of Mechanical, Biomedical and Manufacturing Engineering
T: 021 433 5424
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Question Time
What level of design is involved with Mechanical Engineering?
Design is a central theme of the programme and students use the latest 3D modeling software to develop and communicate their ideas.

Has the course professional accreditation?
Graduates can become Associate Members of Engineers Ireland.

Is there much practical work on the course?
Students get hands-on practice in mechanical workshop, welding, computer-aided design, mechatronics, and also have the option of selecting elective modules in automotive engineering. The course is designed to give an overall balance between practical activities and theory.

Are there any events I should attend to learn more about Mechanical Engineering?
CIT Bishopstown Campus hosts the Cork Mechanical, Manufacturing & Biomedical Engineering Annual Exhibition every April, the largest exhibition of its kind in Ireland. Please see www.cit.ie for details.

myCIT
myCareer

Graham Canty
Mechanical Engineer

Graham graduated with a Level 7 Mechanical Engineering Degree and progressed to an Honours Degree in Mechanical Engineering. He now works for Bord Gáis as a Mechanical Engineer.

Graham managed to merge a very successful academic career with an inspired sporting career. He played Sigerson Football with CIT, U21 and Senior Championship with Cork and captained Ireland on a tour of Australia in the International Rules. He also captained Cork to the Senior All-Ireland Football Championship in 2010.

Biomedical Engineering (Honours)

CR 520 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Biomedical Engineering
Duration: 4 Years (8 Semesters)
Places: 10
CAO Points in 2012: **Round 1:** 390 / **Final:** 390

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	C3 (H) or (Note 1)	D3 (O/H)

Note 1: The requirement for HC3 Mathematics may also be satisfied by HC3 in Applied Mathematics plus HD2 in Mathematics.

What is Biomedical Engineering?

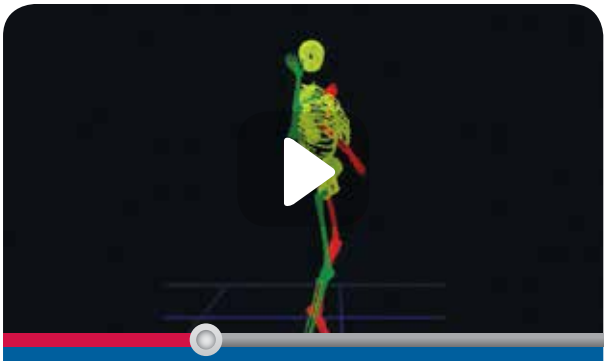
Biomedical Engineering combines engineering with an appreciation of the functioning of the human body, whether healthy, injured or diseased. Products include prosthetic devices to provide the disabled with tools to improve their quality of life, disposable plastic and wound care products, and precision implants including pacemakers, microelectronic devices, orthopaedic implants, diagnostics, contact lenses and stents. In the clinical context, biomedical engineers play a key role in designing, sourcing and maintaining equipment, facilities and services within hospitals.

myCIT myCourse

"Students get experience in Design, Manufacturing, Anatomy, and many more areas. Work placement showed me how interesting and fulfilling a career it is, while at the same time I am helping to improve the lives of patients."
Alan O'Reilly

Helpful Leaving Certificate Subjects

Mathematics, Physics, Biology, and Engineering.



www.cit.ie/course/CR520 and www.cit.ie/bioeng

Work Placement

Formal work placement (minimum of ten weeks) is an integral element of the course and takes place in Year 3.

Potential Areas of Employment

- Biomedical Device Design and Manufacture
- Research & Development
- Engineering Support within Clinical Environments

Module Information
http://modules.cit.ie/cr520

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course covers topics from the design and development of artificial joints, to equipment for medical diagnosis and treatment, to the implanting of biomaterials or biomedical devices in the human body. Biomedical Engineers are therefore required at all stages from product design, to product manufacture, to technical support and interfacing with medical users in clinical environments. It uses engineering principles to understand and control biological systems and therefore also requires a working knowledge of physiology, anatomy, and biological science.

This course integrates the study of biological systems, biomedical devices and clinical engineering with traditional mechanical, electrical and manufacturing engineering. Projects are carried out in conjunction with industry, with medical practitioners, and with the Biomedical Engineering unit of Cork University Hospital.

Further Studies
For details, see www.cit.ie/bioeng and www.medic.ie

Suitably qualified graduates are eligible to progress to the taught Masters' programmes or to research at either Master's or PhD level. CIT has also set up the Medical Engineering Design and Innovation Centre (MEDIC) as a vehicle for Biomedical Device research.

Career Opportunities
Graduates can look forward to careers in the medical device industry, in the design and manufacture of medical devices, in research roles within industry or in academic research. Graduates can also enter the hospital or clinical environment to work as clinical engineers.

Contact Information
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Question Time
What is the difference between Biomedical Science and Biomedical Engineering?
Biomedical Engineering combines engineering principles with an appreciation of the functioning of the human body, whether healthy, injured or diseased in order to design and manufacture products or provide technical support. Biomedical engineers can work in hospitals, in manufacturing plants and in research and development environment.

Biomedical scientists investigate into samples of tissue and body fluids in order to diagnose disease and monitor the treatment of patients therefore, it is largely laboratory based.

What does a Biomedical Engineer produce?
Solutions to problems! Design of devices, instrumentation or processes in a clinical, manufacturing or research environment.

Is there a scholarship available for the course?
Yes. The CIT-DePuy scholarship was launched in 2012 and is worth €2,250 per year for the successful candidate. DePuy (a Johnson & Johnson company) is a major multi-national employer in the Cork region, manufacturing artificial joints in Ringaskiddy in Cork. DePuy's support for the scholarship is a major endorsement of the relevance of the course to the biomedical industry.

Has the course professional accreditation?
Yes, Graduates can become Associated Members of Engineers Ireland.

Are there any events I should attend to learn more about Biomedical Engineering?
CIT Bishopstown Campus hosts the Cork Mechanical, Manufacturing & Biomedical Engineering Annual Exhibition in April, it is the largest exhibition of its kind in Ireland. Please see www.cit.ie for details.

myCIT myCareer

Lucy O'Sullivan
Biomedical Engineer

"After graduation, I spent six months on a graduate internship with Teleflex (a worldwide biomedical company) in both Athlone and Malaysia, three months each in the Quality department and in R&D.

When I returned, I was employed by DePuy Ireland in its manufacturing plant in Ringaskiddy, Cork. I work on the quality aspects of products being transferred into the Cork plant from DePuy plants in other countries."

Biomedical Engineering

CR 075 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Biomedical Engineering
Duration: 3 Years (6 Semesters)
Places: 20
CAO Points in 2011: **Round 1:** 255 / **Final:** 255

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Biomedical Engineering?

Biomedical Engineering combines engineering with an appreciation of the functioning of the human body, whether healthy, injured or diseased. In the clinical context, biomedical engineers play a key role in designing, sourcing and maintaining equipment, facilities and services within hospitals. Products include prosthetic devices to provide the disabled with tools to improve their quality of life, disposable plastic and wound care products, and precision metal implants including pacemakers, microelectronic devices, orthopaedic implants, diagnostics, contact lenses and stents.

Helpful Leaving Certificate Subjects

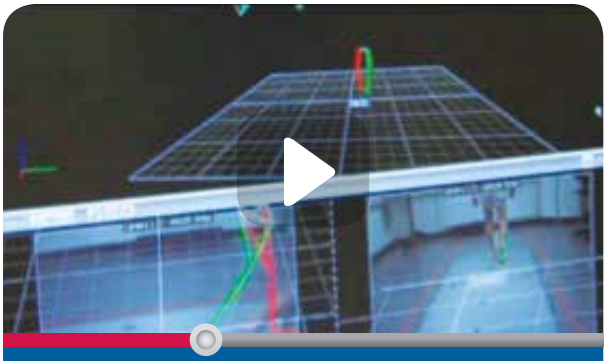
Mathematics, Physics, Biology, and Engineering.

Potential Areas of Employment

- Biomedical Device Design and Manufacturing
- Clinical Environment
- Research & Development

myCIT myCourse

"It is a really interesting course that covers a wide variety of subjects, a lot of which incorporate practical applications. Lecturers are enthusiastic and are genuinely interested in their students which allows students reach their full potential". **Aisling O'Shea**



www.cit.ie/course/CR075 and www.cit.ie/bioeng

Module Information
http://modules.cit.ie/cr075

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The course is delivered through formal lectures, tutorials, practical and project work. There are a number of dedicated Biomedical Engineering laboratories containing leading edge technology. These facilitate teaching and research both at undergraduate and postgraduate level and include:

- Gait Analysis Lab
- Biomaterial Lab
- Hurley Helmet Testing Rig
- Instron Dynamic Testing Machine
- Non-Contact 3D Light Scanner
- Rapid Prototyping Machine

Projects are carried out in conjunction with industry, with medical practitioners and with the Biomedical Engineering Unit of Cork University Hospital.

Further Studies
For details, see www.cit.ie/bioeng

Subject to availability of places, suitably qualified graduates may apply to Year 3 of

→ Bachelor of Engineering (Honours) in Biomedical Engineering

or the one year add-on

→ Bachelor of Science (Honours) in Advanced Manufacturing Technology

Career Opportunities
Graduates will be qualified to work as biomedical engineering technologists within the healthcare, medical device industries, in research and development facilities, and also in clinical/ hospital environments.

Contact Information
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Department of Mechanical, Biomedical and Manufacturing Engineering
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W: www.cit.ie/bioeng

Question Time
What does a Biomedical Engineer produce?
Medical devices, instrumentation, or processes in a clinical or manufacturing environment.

What is the difference between Biomedical Science and Biomedical Engineering?
Biomedical Engineering combines engineering principles with an appreciation of the functioning of the human body, whether healthy, injured or diseased in order to design and manufacture products or provide technical support. Biomedical engineers can work in hospitals, in manufacturing plants and in research and development environment.

Biomedical scientists investigate into samples of tissue and body fluids in order to diagnose disease and monitor the treatment of patients therefore, it is largely laboratory based.

Has the course professional accreditation?
Yes, at Associate Level with Engineers Ireland.

Are there any events I should attend to learn more about Biomedical Engineering?
CIT Bishopstown Campus hosts the Cork Mechanical, Manufacturing & Biomedical Engineering Annual Exhibition in April, it is the largest exhibition of its kind in Ireland. Please see www.cit.ie for details.

myCIT myCareer

Denise Cronnelly
Quality Engineer

Denise undertook a MEng in Biomedical Engineering before commencing employment as a Quality Engineer with Boston Scientific in Clonmel where it manufactures implantable pacemakers and defibrillators.

Denise's role as a Quality Engineer is varied and encompasses elements such as process optimisation, equipment validation, and aspects of regulatory compliance.

Electronic Systems Engineering (Honours)

CR 590 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Electronic Systems Engineering
Duration: 4 Years (8 Semesters)
Places: 40 (between CR 590 and CR 061)
CAO Points in 2011: **Round 1:** 300 / **Final:** 300

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Electronic Systems Engineering?

Small, lightweight, portable devices like Smartphones and tablets combine wireless technology with processing power to provide internet, communications and leisure functionality while on the move. They are now driving how we live, work and play. Combining low power consumption with microchip design, telecommunication and control circuitry (hardware) and the operating system software, they are the ultimate electronic system. CIT's CR 590 programme is designed to equip engineers to work at this level.

myCIT myCourse

"The course provided me with the knowledge and experience I need to tackle today's job markets."
Stephen Kelleher

Helpful Leaving Certificate Subjects

Mathematics, English, Applied Maths, and Physics.

Potential Areas of Employment

- Test/Development/Design in Electronic Systems
- Telecomms Network Software/Hardware Design/ Support
- IT Software Development
- R & D in Product Development

www.cit.ie/course/CR590 and http://e-eng.cit.ie

Module Information
http://modules.cit.ie/cr590

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Electronic systems are used for the collection, processing and transmission of information. From the most sophisticated machines in industry, to cars, to household appliances and to personal items, all have the same thing in common: they are "intelligent". On a printed circuit board (PCB), surrounded by analogue and digital circuitry, there is a microprocessor, or maybe several, which has a clock (heartbeat). On every cycle the microprocessor executes an instruction from whatever programming it is running (software) – this ability is what makes the system intelligent. Intelligence, control and communications, theory and practice, form the core material of this course.

Further Studies
For details see http://e-eng.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT:
- → MEng in Embedded Systems Engineering (Taught)
- → MEng (by Research)
- → PhD

Career Opportunities
In its report of January 2012, the Irish Government Expert Group on Future Skills Needs (EGRSN) states that the country will increasingly depend in all areas on Information Communications Technology (ICT) graduates. Nationally, 75,000 people are employed in 8,000 ICT companies. The CIT Electronic Systems Engineer skillset creates access to many ICT sector job opportunities. Technical know-how, ability to problem solve, and to learn independently makes the graduate highly versatile and highly marketable. For a snapshot of ICT in the greater Cork area, visit www.ceia.ie.

Contact Information
Dr Tom O'Mahony
Department of Electrical & Electronic Engineering
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E: tom.omahony@cit.ie

Question Time
What level of Mathematics is required?
A grade D in Leaving Certificate Ordinary Level is the minimum requirement, however, a higher grade is recommended.

Can you give me examples of the type of work I will be able to do?
Test, develop, design electronic circuits or microchips (hardware), write programmes (software) for products, computer packages, games, mobile phone networks, provide technical support for products.

Will I be working in a factory?
The majority of electronic engineers work in nice offices! A huge amount of work is actually done on computers. But if it's hardware then it will need building and testing in a lab. Mostly, the product will then be outsourced to cheaper parts of the world for manufacture.

myCIT
myCareer

Ciara Murphy
Transmission Engineer

"After graduation, I worked with Surecom Network Solutions in Dublin. My projects include planning radio links in the UK and planning sites in Australia to support their telecoms network.

The work involves equipment specification, installation and operation. On other projects, I have worked in conjunction with O_2 and Vodafone.

It is very interesting and I have already gained so much experience. My Degree was a great foundation in many ways."

Open Day 16 & 17 November

Electronic Engineering

CR 061 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Electronic Engineering
Duration: 3 Years (6 Semesters)
Places: 40 (between CR 061 and CR 590)
CAO Points in 2011: **Round 1:** 220 / **Final:** 220

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Electronic Engineering?

Small, lightweight, portable devices like Smartphones and tablets combine wireless technology with processing power to provide internet, communications and leisure functionality while on the move. They are now driving how we live, work and play. Combining low power consumption with microchip design, telecommunication and control circuitry (hardware) and the operating system software, they are the ultimate electronic system. CIT's CR 061 course is designed to equip technologists to work at this level.

Helpful Leaving Certificate Subjects

Mathematics, English, Applied Maths, and Physics.

Potential Areas of Employment

- Test/Development in Electronic Systems
- Telecomms Network Software/Hardware Service/ Support
- IT Software Development
- Product Development

myCIT myCourse

"I returned to college as a mature student and I was really impressed with the CR 061 course and in particular the lecturers are very friendly and always willing to help you out."
Anthony Moffat

www.cit.ie/course/CR061 and http://e-eng.cit.ie

Module Information
http://modules.cit.ie/cr061

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
Electronic systems are used for the collection, processing, and transmission of information. From the most sophisticated machines in industry, to cars, to household appliances, to personal items, all have the same thing in common: they are "intelligent". On a printed circuit board (PCB), surrounded by analogue and digital circuitry, there is a microprocessor, or maybe several, which has a clock (heartbeat). On every cycle the microprocessor executes an instruction from whatever programming it is running (software) – this ability is what makes the system intelligent. Intelligence, control and communications, theory and practice form the core material of this course.

Further Studies
For details, see http://e-eng.cit.ie

Suitably qualified graduates are eligible to apply for entry to Year 4 (final) of

→ Bachelor of Engineering (Honours) in Electronic Systems Engineering

Career Opportunities
In its report of January 2012, the Irish Government Expert Group on Future Skills Needs (EGRSN) states that the country will increasingly depend on Information Communications Technology (ICT) graduates in all areas. Nationally, 75,000 people are employed in 8,000 ICT companies. The CIT Level 7 Electronic Engineering skillset creates access to many ICT sector job opportunities. Technical know-how and practical ability makes the graduate highly versatile and highly marketable. For a snapshot of ICT in the greater Cork area, visit www.ceia.ie.

Contact Information
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Question Time
What is the difference between Electronic Engineering and Electrical Engineering?
Electronic Engineering is small scale, low voltage, component level, microchips and programming.

Electrical Engineering is high power, mains electricity, generation, power lines, transformers, motor/generators and, in many cases, automation.

Has the course professional accreditation?
The Level 7 in Electronic Engineering has been accredited by Engineers Ireland for Associate membership in the past and that application is up for renewal again soon.

What level of Mathematics is required?
A grade D in Leaving Certificate Ordinary Level is the minimum requirement, however, a higher grade is recommended.

myCIT myCareer

Seán O'Sullivan
Product Support

"I graduated in 2011 with a Level 7 Degree and I am currently working in the iOS department of Apple Inc. My job is providing technical support for iPods, iPads and iPhones. It is a great place to work and the salary is excellent.

I am working very much in the area that I studied and it has equipped me very well. I can thoroughly recommend the BEng in Electronic Engineering."

Electrical Power Systems (Honours)

CR 580 Level 8 Award

>> Progression to Postgraduate Programmes

Application: CAO
Award Title: Bachelor of Engineering (Honours) in Electrical Power Systems
Duration: 4 Years (8 Semesters)
Places: 40 (between CR 580 & CR 062)
CAO Points in 2011: **Round 1:** 310 / **Final:** 310

Minimum Entry Requirements
Leaving Certificate in 6 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
4	2	D3 (O/H)	D3 (O/H)

What is Electrical Power Systems?

Providing electrical power in a modern economy is about generation, distribution and usage in a safe, economic and sustainable way. Fossil fuel energy now combines with solar, wind and tidal energy to create "embedded" generation which needs a "smart grid" to automatically switch users and suppliers in and out while maintaining the quality of the supply. CIT's Electrical Power Systems course is designed to equip engineers for this environment.

myCIT myCourse

"The Electrical Power Systems Degree course provides you with the technical, practical, and communication skills required to be a successful electrical engineer."
Shane Kiely

Helpful Leaving Certificate Subjects

Mathematics, English, Applied Maths, and Physics.

Potential Areas of Employment

- Energy Generation/Transmission
- Building Supply/Installation/Services/Maintenance
- Consultancy/Contract Management
- Process/Automation Industry

www.cit.ie/course/CR580

Module Information
http://modules.cit.ie/cr580

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The general fields of study are Renewable Generation, Transmission and Distribution, Plant Automation, Motor Control, Power Systems Planning and Industrial Management and Services. The syllabus is designed to prepare graduates for work in electrical power and automation systems. The high academic standard of the course is complemented by a strong emphasis on applications and project work. State-of-the-art lab equipment and software prepares graduates for the work environment. Class work is supplemented by field trips to major employers within the greater locality.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for a postgraduate degree at CIT.
- → MEng (by Research)
- → PhD

Career Opportunities
Graduates will have acquired both the knowledge and the competence to work as engineers in generation and distribution of electrical energy, in the control of automated production systems, with particular emphasis on power drives and aspects of robotic control, in the design and maintenance of Combined Heat and Power (CHP) units and in embedded generation systems. Also design/application/maintenance of renewable sources of electrical energy such as wind energy and fuel cells. Graduates can expect to find employment in the energy generation, transmission and grid control section of the market, directly or through consultancy, plus in the area of automation as utilised in modern processes.

Contact Information
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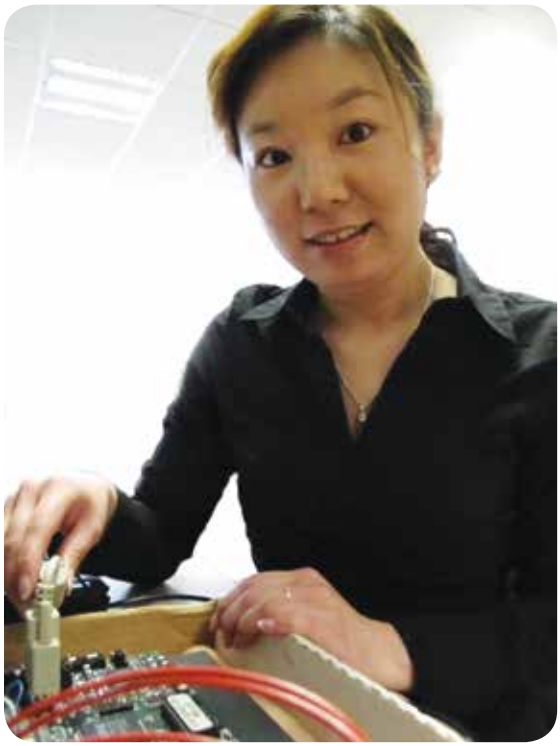
Question Time
Can I become an electrician?
An electrician is a well-established and reputable trade which has its own development programme and its own target job market. Third level programmes are designed to equip graduates to work at design/development level and then to liaise with skilled trades for implementation.

What is the difference between Electronic Engineering and Electrical Engineering?
Electronic Engineering is small scale, low voltage, component level, microchips and programming.

Electrical Engineering is high power, mains electricity, generation, power lines, transformers, motor/generators and automation.

What elements of renewable energy are covered in the course?
Modules dealing with all current renewable areas are dealt with on a mandatory basis because of their relevance. There is also an opportunity to explore these areas further through elective modules.

What level of Mathematics is required?
A grade D in Leaving Certificate Ordinary Level is the minimum requirement, however, a higher grade is recommended.



myCIT
myCareer

Stephen Tracey
Power Engineer

"After graduation, I joined ESB Networks on a 3 year graduate engineer programme. I spent the first year on network data analysis and software design and the second year on Health & Safety IT Development, during which I attended UCD to complete a Diploma in Health & Safety in the workplace.

Currently, in Year 3, I am with ESB International designing and upgrading High Voltage Substations. The work is highly challenging and interesting and my studies prepared me well for it."

Electrical Engineering

CR 062 Level 7 Award

>> Progression to Honours Degree & Postgraduate Programmes
▲ Higher Certificate Option

Application: CAO
Award Title: Bachelor of Engineering in Electrical Engineering
Duration: 3 Years (6 Semesters)
Places: 40 (between CR 062 and CR 580)
CAO Points in 2011: **Round 1:** 250 / **Final:** 250

Minimum Entry Requirements
Leaving Certificate in 5 Subjects

Subjects D3 (O/H)	Subjects C3 (H)	Maths Grade	English or Irish Grade
5	0	D3 (O/H)	D3 (O/H)

What is Electrical Engineering?

Providing electrical power in a modern economy is about generation, distribution and usage in a safe, economic and sustainable way. Fossil fuel energy now combines with solar, wind and tidal energy to create "embedded" generation which needs a "smart grid" to automatically switch users and suppliers in and out while maintaining the quality of the supply. CIT's Electrical Engineering course is designed to equip technologists for this environment.

Helpful Leaving Certificate Subjects

Mathematics, English, Applied Maths, and Physics.

Potential Areas of Employment

- Energy Generation/Transmission
- Building Supply/Installation/Services/Maintenance
- Commissioning
- Process/Automation Industry

myCIT myCourse

"CIT is a great place to study. Many of the lecturers have worked in industry and can convey real world skills through lectures, labs, and projects. They are very approachable if you have questions."
Eoin Hennebry

www.cit.ie/course/CR062

Module Information
http://modules.cit.ie/cr062

CIT has developed a website which gives full details of all modules for all courses. The website also has information on recommended textbooks, average weekly workload, assessments and exams.

About the Course
The general fields of study are Renewable Generation, Transmission and Distribution, Plant Automation, Motor Control, Power Systems Planning, and Industrial Management and Services. The syllabus is designed to prepare graduates for work in electrical power and automation systems. The high academic standard of the course is complemented by a strong emphasis on applications and project work. State-of-the-art lab equipment and software prepares graduates for the work environment. Class work is supplemented by field trips to major employers within the greater locality.

Further Studies
For details, see www.cit.ie

Suitably qualified graduates are eligible to apply for entry to Year 4 (final) of

→ Bachelor of Engineering (Honours) in Electrical Power Systems

Career Opportunities
Graduates will have acquired both the knowledge and the competence to work in generation and distribution of electrical energy, in the control of automated production systems with particular emphasis on power drives and aspects of robotic control, in the maintenance of Combined Heat and Power (CHP) and in embedded generation systems. Graduates will also have acquired the competence to work in the application and maintenance of renewable sources of electrical energy such as wind energy and fuel cells. Graduates can expect to find employment in the energy generation, transmission and grid control section of the market plus in the area of automation as utilised in modern processes.

Contact Information
Noel Mulcahy
Department of Electrical & Electronic Engineering
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Question Time
What is the difference between Electronic Engineering and Electrical Engineering?
Electronic Engineering is small scale, low voltage, component level, microchips and programming. Electrical Engineering is high power, mains electricity, generation, power lines, transformers, motor/generators and automation.

Has the course professional accreditation?
The Level 7 in Electrical Engineering has been accredited by Engineers Ireland for Associate membership in the past and that application is up for renewal again soon.

Can I become an electrician?
An electrician is a well-established and reputable trade which has its own development programme and its own target job market. Third level programmes are designed to equip graduates to deal with projects at design/development level and when approved/agreed, the work is implemented by skilled trades.

What elements of renewable energy are covered in the course?
Modules dealing with current renewable areas are dealt with on a mandatory basis because of their relevance. There is also an opportunity to explore these areas further through elective modules.

What level of Mathematics is required?
A grade D in Leaving Certificate Ordinary Level is the minimum requirement, however, a higher grade is recommended.

myCIT
myCareer

Harry O'Farrell
Energy Consultant

"I completed my Level 7 in 2009 and Level 8 in 2010. I then joined Energy Services Ltd. in Cork who are energy consultants specialising in energy procurement, supply/demand side management internationally.

My projects so far include embedded generation, power transmission/ distribution, including wind farms, and consumption monitoring and assessment at home, in Europe and as far away as Central Asia. My training as an electrician plus my undergraduate programmes have prepared me well for this work. Power/electrical engineering is an excellent career and there is significant demand for it."

Engineering MASTER CHART

									MINIMUM ENTRY REQUIREMENTS				INITIAL AWARD & PROGRESSION OPPORTUNITIES AT CIT		
Course Code	Course Name	Page No.	Initial Award	Duration in Years	Higher Certificate Step-off Available	No. of 1st Year Places	Round 1 Points 2011	Final Points 2011	No. of L.C. Subjects	No. of C3 (H) Grades	Maths Grade	English or Irish Grade	Bachelor Degree	Honours Bachelor Degree	Post Grad
CR 500	Engineering (Common Entry) (Ref.2)	61	Honours Bachelor Degrees			30	310	310	6	2	D3 (H) or A2 (O)	D3 (O/H)		✔	✔
CR 109	Structural Engineering	63	Honours Bachelor Degree	4		20	380	380	6	2	C3 (H) or (Ref.3)	D3 (O/H)		✔	✔
CR 051	Civil Engineering	65	Bachelor Degree	3	✔ (Ref.1)	40	225	225	5	0	D3 (O/H)	D3 (O/H)	✔	✔ (Ref.13)	✔
CR 570	Quantity Surveying	69	Honours Bachelor Degree	4		20	285	285	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 572	Construction Management	67	Honours Bachelor Degree	4		20	250	250	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 052	Construction	71	Bachelor Degrees	3	✔ (Ref.1)	40	200	200	5	0	D3 (O/H)	D3 (O/H)	✔ (Ref.4/5)	✔	✔
CK 606	Architecture (CIT & UCC Joint Course) (Ref.6)	73	Honours Bachelor Degree	4		45	420	420	6	2	D3 (O/H)	D3 (O/H) in both Irish & English		✔	✔
CR 560	Architectural Technology	75	Honours Bachelor Degree	4		36-40*	320	320	6	2	D3 (O/H)	D3 (O/H)		✔	
CR 090	Architectural Technology	77	Bachelor Degree	3		36-40*	300	300	5	0	D3 (O/H)	D3 (O/H)	✔	✔	
CR 565	Interior Architecture	79	Honours Bachelor Degree	4		40**	300	300	6	2	D3 (O/H)	D3 (O/H)		✔	
CR 053	Interior Architecture	81	Bachelor Degree	3		40**	250	250	5	0	D3 (O/H)	D3 (O/H)	✔	✔	
CR 077	Craft Technology (Wood) with Business	83	Bachelor Degree	3		20	New Course	New Course	5	0	D3 (O/H)	D3 (O/H)	✔		
CR 105	Chemical & Biopharmaceutical Engineering	85	Honours Bachelor Degree	4		20	395	395	6	2	C3 (H) or (Ref.3)	D3 (O/H)		✔	✔
CR 590	Electronic Systems Engineering	105	Honours Bachelor Degree	4		40****	300	300	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 061	Electronic Engineering	107	Bachelor Degree	3	✔ (Ref.1)	40****	220	220	5	0	D3 (O/H)	D3 (O/H)	✔	✔	✔
CR 062	Electrical Engineering	111	Bachelor Degree	3	✔ (Ref.1)	40***	250	250	5	0	D3 (O/H)	D3 (O/H)	✔	✔	✔
CR 580	Electrical Power Systems	109	Honours Bachelor Degree	4		40***	310	310	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 108	Mechanical Engineering	97	Honours Bachelor Degree	4		20	350	345	6	2	C3 (H) or (Ref.3)	D3 (O/H)		✔	✔
CR 071	Mechanical Engineering	99	Bachelor Degree	3	✔ (Ref.1)	80	275	275	5	0	D3 (O/H)	D3 (O/H)	✔	✔ (Ref.7/8/9/10)	✔
CR 510	Sustainable Energy	87	Honours Bachelor Degree	4		40	330	330	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 520	Biomedical Engineering	101	Honours Bachelor Degree	4		10	370	330	6	2	C3 (H) or (Ref.3)	D3 (O/H)		✔	✔
CR 075	Biomedical Engineering	103	Bachelor Degree	3	✔ (Ref.1)	20	255	255	5	0	D3 (O/H)	D3 (O/H)	✔	✔ (Ref.8/11)	✔
CR 522	Building Energy Systems	89	Honours Bachelor Degree	4		20	New Course	New Course	6	2	D3 (O/H)	D3 (O/H)		✔	✔
CR 072	Building Services Engineering	91	Bachelor Degree	3	✔ (Ref.1)	20	250	250	5	0	D3 (O/H)	D3 (O/H)	✔	✔ (Ref.7/10/14)	✔
CR 046	Transport Management & Technology	93	Bachelor Degree	3	✔ (Ref.1)	40	225	225	5	0	D3 (O/H)	D3 (O/H)	✔	✔ (Ref.12)	✔

Ref.1 Students who successfully complete Year 2 of the Bachelor Degree Programme and do not wish to progress to Year 3, will receive a Higher Certificate Qualification.
Ref.2 On successful completion of the first year students can choose to enter the second year programme of their choice from CR 105 / CR 108 / CR 109 / CR 520.
Ref.3 The requirement for HC3 Mathematics may also be satisfied by HC3 in Applied Mathematics plus HD2 in Mathematics.
Ref.4 BSc in Construction Management
Ref.5 BSc in Quantity Surveying
Ref.6 The entry requirements for CK 606 Architecture are under review.
Ref.7 BSc (Honours) in Process Plant Technology
Ref.8 BSc (Honours) in Advanced Manufacturing Technology
Ref.9 BEng (Honours) in Mechanical Engineering
Ref.10 BEng (Honours) in Sustainable Energy
Ref.11 BEng (Honours) in Biomedical Engineering
Ref.12 BSc (Honours) in Transport Management
Ref.13 BEng (Honours) in Structural Engineering
Ref.14 BEng (Honours) in Building Energy Systems
* There will be 36-40 first year places available between CR 090 Architectural Technology and CR 560 Architectural Technology.
** There will be 40 first year places available between CR 053 Interior Architecture and CR 565 Interior Architecture.
*** There will be 40 first year places available between CR 062 Electrical Engineering and CR 580 Electrical Power Systems.
**** There will be 40 first year places available between CR 061 Electronic Engineering and CR 590 Electronic Systems Engineering.
NOTE: Round 1 Points 2012 can be found inside the cover of this Handbook.
Number of First Year Places may change.
Leaving Certificate (LC)