CORK INSTITUTE OF TECHNOLOGY
INSTITIÚID TEICNEOLAÍOCHTA CHORCAÍ

CAREERS SERVICE

Your Degree in Engineering…What Next?

"Scientists discover the world that exists; Engineers create the world that never was." *Theodore Von Karmen 1881*

What Skills have I gained from my Engineering Degree?

A qualification in engineering is highly regarded and valued by many employers for the relevant, transferable skills and competencies they can bring to a wide range of professional fields. In fact there are more qualified engineers employed in professional sectors other than their chosen specialism than any other degree stream.

Core skills gained from an engineering degree include:

- Analysis and problem solving
- Logical and mathematical reasoning
- Research and analytical skills
- Teamwork
- Technical skills

What Can I do with my Engineering Degree?

Graduating from your engineering degree leaves you with a diverse range of opportunities to consider. Ideally you will spend a lot of your final year carefully researching your options which includes **graduate employment or further study.**

Graduate Employment- types of companies

There are a wide range of manufacturing and engineering related sectors in Ireland providing employment opportunities for engineers from varying disciplines. There are over 1200 national and multinational employers, 600 of these companies are Irish and employ over 16,000 people in sectors as diverse as medical technologies, pharmaceutical and bio-pharmaceutical, chemical, electrical, electronic and telecommunications, food and drink, materials handling and automation.
Enterprise Ireland has lists of Irish employers in the engineering sector, including an up to date engineering sector profile
www.enterprise-ireland.com/en/publications click on *Corporate Reports and Published Strategies* and *Sector and Company Directories.*

Industrial Development Agency-IDA has a comprehensive list of all multi-national companies in Ireland. Companies manufacturing engineering products and devices in addition to all manufacturers who employ engineers are listed.
www.idaireland.com click on business sectors and company databases for a full profile.

Employment -prospects and trends
In 2010 there were almost 27,000 people employed in engineering jobs in Ireland, over half of these have in manufacturing and over 80% of jobs are at professional degree level. Employment opportunities are positive and are expected to expand in research and development for design engineers in the medical devices sector. Opportunities are still strong for diagnostic and control engineers across a range of manufacturing sectors including food processing and medical devices.
Enterprise Ireland has identified Agricultural Machinery, Materials Handling and Niche Precision Engineering as areas with significant growth potential over the coming years:
Two other growth sectors include renewable energy and environmental protection. These sectors are predicted to open up a significant number of career development opportunities for engineers of varied disciplines i.e. mechanical, electrical, electronic, civil, sustainable energy and environmental. Graduate engineers have traditionally earned higher starting salaries than other disciplines.

Biomedical Engineering
The medical technologies sector in Ireland is substantial and growing. Over 14 of the largest multinational companies have located here while a significant but growing number of indigenous enterprises are engaged in the design, development, testing and manufacture of a wide range of preventative, diagnostic and treatment systems and products for the healthcare sector.

Employers include: Stryker, Abbott, Boston Scientific, Medtronic and DePuy.

Chemical & Process Engineering
Main jobs are in design and development, testing, production, maintenance and troubleshooting. Employment opportunities arise with manufacturers of chemicals for all kinds of uses, the main ones of which include:
Food and drink, pharmaceutical and medical treatment and diagnostic products, water and waster water treatment, oil refinement/petrochemicals, cosmetics and household products

Employers include: Abbott, Henkel, Alcan, GlaxoSmithKline, Pfizer, Unilever, Elli Lilly, BOC Gases, Irish Cement and Coca Cola.

Civil & Structural Engineering
Main jobs are in design, planning, construction and supervision. Opportunities arise in the five main sub categories: construction, structural, transportation, environmental & water and geotechnical.

Employers include: Local Authorities, building contractors such as Sisk, Bam, McNamara Construction, Bowen Construction, PJ Hegarty consultancies such as : Fehilly Timoney & Company, RPS Consulting Engineers, Malachy Walsh, Project Management, and Arup.

Electrical Engineering
Main jobs are in design, development, testing and maintenance in the manufacture of electrical products, services/utilities and energy & power generation. Main employment sectors breakdown into the following categories: power engineering, control engineering, computer engineering and telecommunications engineering.

Employers include: ESB, Airtricity, Eirgid, Analog Devices, Siemens and a wide range of industries engaged in manufacturing/production, all of whom require the skills of electrical engineers in the management and maintenance of power systems.

Electronic Engineering
Main jobs are in the design, development testing and maintenance of products and systems in the fields of all communications, signal processing and control systems.

Employers include: Abbott, Ericsson, Siemens and Intel.

Mechanical Engineering
The broadest and most versatile of all engineering disciplines, there are more mechanical engineers in the world than any other type. Mechanical engineers are employable across the widest stream of sectors.
Main jobs: are in the design, development, testing and maintenance of all power producing machines and technology from design/manufacturing tools and automated systems to parts and whole systems for engines, turbines and generators.

Employers include: Glen Dimplex, ESB and Aer Lingus.

Sustainable Energy Engineering
Employment opportunities are on the increase in the design, development, testing production, storage and maintenance of renewable and sustainable sources of energy. Particularly strong areas of current and future development in Ireland are in wind energy and tidal energy. Others areas include biomass and solar power.

Employers include: SWS, Airtricity and ESB.

Transport & Auto Engineering
Main jobs are in sales/retail, management and supervisory positions in the motor trade and parts sector. Employment opportunities arise with main car dealers, importers, parts manufacturers and wholesalers and distributers.
Many graduates who choose to graduate at Certificate Level or Degree Level may opt to fully qualify as mechanics through a FAS apprenticeship and gain a National Craft Certificate. Exemptions are given. For more information contact FAS –see their website www.fas.ie

FINDING EMPLOYMENT
Employers seeking final year /postgraduate Engineering students or recent graduates generally advertise their roles as either *Graduate Jobs* or *Graduate Programmes.*

Graduate Progammes:
Some large companies offer Graduate Programmes which range in duration from 18 months to 2 years normally. This may involve just one role or a rotation of roles in the same department or different departments to learn about the company and see where your interests and skills lie. Training and mentoring is usually included. In most cases companies are offering a full time permanent role to a graduate as part of the programme.
Competition for places is tough as large numbers of students apply for a small number of places with companies. Many companies recruit between October and December so final year students need to be on look out as soon as the academic year starts. Recent graduates can often apply too but check with the company first.

N.B. Companies often advertise graduate programmes or graduate jobs on the job page of a College/University Careers Service website as well as on www.gradireland.com

Check the jobs page on CIT's Careers & Employability Service website; http://www.mycit.ie/careers.

Register with gradireland to get email alerts on employment opportunities as well as job search advice www.gradireland.com
Get a copy of the **Gradireland Careers Directory** for Ireland (north and south) which is available at CIT's Careers and Counselling Service, 2nd Floor, Student Centre.

POSTGRADUATE STUDY

Gaining a postgraduate qualification brings with it many benefits. It enables you to gain further more specialized knowledge of your field of study; it can give you a specific technical, vocational or professional qualification and facilitate you in developing a range of key skills including: research, analysis, evaluation and written communication.
For further information, go to the 'Further/Postgraduate Study' link on the Students page of our website; http://www.mycit.ie/careers.

See also www.postgradireland.com and Engineers Ireland www.engineersireland.ie

FURTHER RESOURCES

Engineers Ireland www.engineersireland.ie
Irish Engineering Enterprises Federation – www.ibec.ie/ieef
Association for Consultancy and Engineering www.acei.ie
Society of Manufacturing Engineers – www.sme.org
Pharmachemical Ireland – www.pharmachemicalireland.ie

Gradireland Publications – 'Engineering' is available at the Careers and Counselling Service or download from www.gradireland.com

For career opportunities in engineering in the UK see www.targetjobs.co.uk
TARGET Engineering publication and TARGET JOBS magazines are available from the Careers and Counselling Service or download from website.