

# A Career in Engineering

## A Great Choice for Female and Male Students

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***The number of career options available to female and male engineers has never been greater.***

Areas such as electrical/electronic, chemical, biomedical, environmental, energy, mechanical, manufacturing, civil, structural, construction, marine, transport and building services engineering cater for every taste. While male students will continue to be attracted to pursue engineering careers, an increasing proportion of female students will be attracted into emerging engineering areas such as biomedical engineering and environmental engineering than was the case for more traditional engineering options in the past.

An engineering qualification provides graduates with a tremendous range of local and international career options. A significant proportion of Ireland's business leaders have engineering qualifications. Engineers need to be good problem solvers. They need to have good technical skills and to combine these with the ability to innovate, manage teams, deliver solutions, manage budgets, communicate and adapt to changing circumstances. These are exactly the skillsets required by start-up and established businesses, large and small. Little wonder that talented engineers fill so many business leadership positions globally as well as providing the innovative drive for many of the major developments that impact directly on our lives today.

For those considering a career in engineering, it is definitely worth investing the time and effort required to understand the various course options and how these align with the ambitions and abilities of prospective students.

For those with an interest in buildings, structures, roads and the physical infrastructure which we use on a daily basis, civil and structural engineering is a good choice. While Ireland's construction industry is currently experiencing many challenges, this may not be the case locally or internationally by the time that students graduate. For those with an interest in science and engineering, biomedical engineering or chemical engineering may be good choices. The biomedical sector in Ireland and internationally has continued to perform well. Good quality chemical engineers are always in demand.

Mechanical engineers are highly versatile and may be involved in a wide range of areas such as product design and development, process design and control, energy management, building services, manufacturing, marine and transport. They work in many different industry sectors.

With global energy and environmental challenges facing the world for the foreseeable future, it is inevitable that engineers with specialist skills in these areas will be in demand in various regions around the world for quite a while to come.

Electrical and electronic engineers have played central roles in the development of practically all of the systems used in our daily lives, e.g., generation and distribution of electrical power, computers, mobile phones, cars, washing machines, and satellite TV etc. With the global IT skills shortage currently in evidence, it is likely that talented electrical and electronic engineers will continue to find work globally into the foreseeable future.

# Five Steps to Choosing a Third Level Course

With such an array of choices to choose from, how should prospective students approach the task of selecting the course that best fits their requirements? CIT encourages students to follow the 5-step approach summarised below.

## STEP 1: YOU AND YOUR INTERESTS

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What areas of engineering are you interested in? Do you have a flair for any related areas of study? Do any of your leisure interests match up well with specific course options? We are all different. Identify your own preferences and strengths, whatever they may be. Ask a professional such as your guidance counsellor for a test of occupational interests and preferences.

## STEP 2: SUBJECTS

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If you are preparing for or have sat the Leaving Certificate, there will be particular subjects that you like and these are often the subjects you perform best at. Your list of subjects will help you to select broad areas for third level. Talk to your subject teachers and your guidance counsellor. Be realistic when you weigh up your strengths, but don't underestimate yourself. An interest in mathematics is useful for engineering but many excellent engineers have entered third level education having completed Mathematics at pass level in the Leaving Certificate and then working hard subsequently to achieve their full potential in this area.

## STEP 3: GET THE FACTS

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A lot of reliable information available about careers and courses is readily available. You can get this from:

- Prospectuses, leaflets and career books
- Teachers
- Guidance counsellors
- Parents
- Talking with people working in the career
- Friends and relatives whose judgement you trust
- Your own work experience or summer job
- Open days at colleges

Don't be slow to enquire. People know this is important to you and they will help if you ask. Consider getting together with some friends to make appointments to visit your colleges of choice to check out facilities etc.

## STEP 4: BE FLEXIBLE

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Be open-minded and flexible. Look at broad career areas, not just narrow job specifications. Many people change jobs several times during their working lives. Look at all the levels: certificates, diplomas and degrees. Engineering courses share many different modules and options to transfer between courses is a feature of the approach followed by many colleges.

## STEP 5: KNOW THE SYSTEM

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Most students enter third level through the CAO Points System. Talk to your parents, teachers and counsellors and with their help try to estimate your CAO points level. Once again, be realistic, but don't underestimate yourself. Remember, the CAO is just a selection mechanism based on supply and demand. If you end up with "points to spare", that's okay; what's important is to choose a course that matches what you want.

A career in engineering is highly rewarding for students who like designing, developing, creating, constructing and innovating around almost every aspect of today's world. For those with the commitment and interest, it is a fantastic choice.