ENGINEERING

Sector Background

Engineering is an exciting career area, which plays a fundamental part in our everyday lives. The areas of work for Engineers are diverse and opportunities exist right across the spectrum from research and development to design, manufacturing, the service sectors and the business world.

The purpose of engineering is to increase the comfort and standard of living for all people on our planet in a sustainable way that will help our environment to survive and improve for generations to come. More information on engineering as a career can be viewed in this Grad Ireland booklet.

There is a huge range of engineering disciplines to choose from, illustrating how Engineers impact on daily life. Once qualified in a chosen area there are even further choices and alternative career paths to travel. A career in engineering can involve working indoors or outdoors, dealing with intricate designs or supervising projects, inventing or implementing ideas. Some of the most widely known disciplines of engineering are listed below with detailed information on the career opportunities and work involved:

Engineering - General Information	Civil Engineering
Aeronautical Engineering	Computer Engineering
Biomedical Engineering	Electrical Engineering
Biosystems Engineering	Electronic Engineering
Building Services Engineering	Industrial Engineering
Chemical Engineering	Mechanical Engineering

An engineering qualification provides valuable portable skills that can help lead into many areas such as aiding the developing world, working abroad, even a directorship in another sector. Students who are unsure of what discipline they would like to work in can apply to one of the general courses available in third level education and specialise later.

Chartered Engineers have been assessed by their peers as professionals in their field in delivering the highest standards of quality, expertise and innovation to serve the needs of society, while ensuring public health and safety. They adhere to the Engineers Ireland code of ethics in all areas of their engineering practice. The registered professional title is internationally recognised and under Irish Law certain engineering work is reserved for Chartered Engineers.

An engineering qualification is an excellent foundation for progression into many non-engineering careers. Graduates will have developed a broad range of transferable skills such as problem-solving, analytical thinking, team-working and project management. These are highly sought after in areas such as business, finance, law, management consulting and supply-chain management. Graduates might also consider roles in teaching or third-world development.

Further study may be required to pursue careers in some of these areas, for example an MBA, professional accounting or law exams, or a teaching qualification.

Typical Roles

Some roles in this sector include;

Aeronautical Engineer	**Computer Software Engineer**
Automotive Engineer	**Electrical Engineer**
Biochemical Engineer	**Electronic Engineer**
Biomedical Engineer	**Energy Engineer**
Biosystems Engineer	**Environmental Engineer**
Building Services Engineer	**Mechanical Engineer**
Chemical Development Engineer	**Mechanical Engineer**
Civil Engineer	**Engineering Technician**

Entry Routes

Accreditation of engineering courses – awarded by Engineers Ireland – functions like a 'quality mark', giving you assurance in three important areas:

- Your chosen course meets standards of excellence defined by the engineering profession

- Your final qualification will be recognised internationally

- You'll have a clear, smooth route to a registered title (e.g. Chartered Engineer, Associate Engineer, and Engineering Technician).

Chartered Engineer

Courses in Ireland accredited for Chartered Engineer eligibility by Engineers Ireland are here. These courses are generally Level 8 Honours Bachelor Degrees in Engineering or Level 9 Masters of Engineering courses and require students to have obtained a minimum of a C3 in the Leaving Certificate (H4 in new grading system) in Higher Level Maths.

Associate Engineer

Courses in Ireland accredited for Associate Engineer eligibility by Engineers Ireland are here.

Engineering Technician

Courses in Ireland accredited for Engineering Technician eligibility by Engineers Ireland are here.

Relevant Bodies & Professional Associations

Association of Consulting Engineers in Ireland	IDA Ireland
Biomedical & Clinical Engineering Association of Ireland	Institute of Industrial Engineers
Engineering Council	Irish Wind Energy Association
Engineers Ireland	Shannon International Aviation Service Centre
Technical Engineering and Electrical Union	SmartFutures.ie
	The Institution of Engineering & Technology