

# Studying Science, Technology and Engineering

(See [www.transworldeducation.com/engineering.htm](http://www.transworldeducation.com/engineering.htm))

# *Why study Science and/or Engineering?*

- Scientists and Engineers belong to the greatest professions in the world, and are responsible for almost everything that makes life worth living - from leisure activities to medical treatment, mobile communications to modern transport systems.
- Within the wide boundaries of the engineering profession, there are thousands of challenging activities, in areas such as research, development, design, manufacture and operation of products and services. Activities which provide stimulating intellectual challenges with diverse and varied tasks, inevitably involving deadlines, and all added to the satisfaction of real output or delivery.
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# *Why study Science and/or Engineering? (II)*

- The demand for good engineers is high, in practically every country in the world. In the information technology (IT) and electronics sectors in particular, there are world shortages of Chartered and Incorporated Engineers, and unemployment amongst professional engineers is lower than for almost any other profession.
- Engineering degrees can lead to a vast number of career opportunities, with graduates in demand in almost every sector of the economy. There is a variety of careers in science and engineering one can choose from and a variety of specialisations as well. Within each of these fields, there are opportunities in research, design, development and tests, as well as management, production, marketing and sales.
- Professional engineers stand a better chance of becoming a chief executive than any other professional, outnumbering accountants by three to one!
- The working environment for engineering professionals is dynamic with new materials, technologies and processes being developed all the time. Increasing globalisation, new markets, and changing employment patterns also mean that an engineering career is now a truly international one.

# *How to Qualify*

- Students should take a broad range of subjects covering both art and sciences at school. Mathematics and Physics are usually essential, but English is also very important, and a foreign language desirable. Minimum qualifications for entry to an Engineering degree course are normally 'A' levels or equivalent in Mathematics and Physics, but a third subject in either the Arts or Sciences ensures a wider choice of degree options. Students without the relevant 'A' levels have the opportunity to 'convert' on one-year pre-entry courses at selected universities.
- With the exception of a few specialist courses, it is common for all students to take the same subjects in the first year(s) of a degree, before going on to specialise in the final year(s), when they can choose from a number of options. For this reason, when selecting a course it is important to check what options are available, especially if you already have a specific career in mind. However, specialising in one area whilst at university/college does not preclude working in another field of the profession at a later date

# *What type of degree to get?*

- There is a wide variety of undergraduate and postgraduate courses available worldwide
- For example, electrical engineering, chemical engineering, mechanical engineering (to name a few), not forgetting the “plain” sciences –Math, Biology, Physics, Chemistry etc.
- However, in the end, the choice of which course to take must be a personal one, dependent on the aims, circumstances and preferences of the individual student.

# *After Graduation*

- A degree is only the beginning of the formation of a professional engineer. In order to qualify for membership of a professional engineering institution, or to qualify for Chartered Engineering status, graduates will often have a minimum of two years industrial training, and two years career development in a responsible position.
- Embarking on a training program in a major industry enables new graduates to develop experience of a wide range of jobs, and acquire a broad understanding of engineering activity outside their own branch. Students who were sponsored during their degree courses may already have spent time in industry, and will have started to give their academic studies an industrial perspective.
- Postgraduate training also offers graduates the chance to keep their career options open, as the opportunity to experience the work of different sectors of an industry can open up new areas of interest not previously appreciated.

# *A Rewarding Future, for you and your country!*

- There is little doubt that the world of engineering - and all that it encompasses - offers exciting opportunities for both men and women. The industrial and economic success of every nation is rooted firmly in its manufacturing and engineering base, and the skills and ingenuity of its professional engineers. The ability to research, develop and apply new technologies is essential, particularly in today's global markets.
- In the UK alone, engineering-led industry contributes about 40% of its gross domestic product, and is the 'goose that lays the golden eggs' for its national economy. From space travel to household electrician, the role of the engineer is crucial. For anyone looking for a rewarding future with a wide variety of employment prospects, there has never been a more exciting time to embark on a career in engineering.