# IChemE releases report on the role of chemical engineering in the ...**Job title:** Chemical Engineer

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| **Job title:**  | Chemical engineers develop ways to turn raw materials into everyday products. |
| **Routes and Entry requirements:**  | **University**You'll normally need a degree or postgraduate qualification in:* chemical engineering
* process engineering
* biochemical engineering

You may be able to do a postgraduate conversion course if you have a degree in a related area like engineering, chemistry or polymer science.A postgraduate master's qualification like an MEng can be studied at university. This course includes independent research and gives you a greater knowledge and understanding of chemical engineering science. It could also prepare you for further postgraduate study like a PhD.You'll usually need:* 4 or 5 GCSEs at grades 9 to 4 (A\* to C), or equivalent, including English, maths and science
* 2 or 3 A levels, or equivalent, including chemistry
* a degree in a relevant subject for postgraduate study

**Apprenticeship**You may be able to do a science industry process engineer degree apprenticeship.You'll usually need:* 4 or 5 GCSEs at grades 9 to 4 (A\* to C) and A levels, or equivalent, for a higher or degree apprenticeship

**Work**You could start as a chemical engineering technician and do training on the job to qualify as an engineer. |
| **Skills required:**  | You'll need:* maths knowledge
* knowledge of engineering science and technology
* knowledge of chemistry including the safe use and disposal of chemicals
* design skills and knowledge
* knowledge of physics
* analytical thinking skills
* science skills
* to be thorough and pay attention to detail
* to be able to use a computer and the main software packages competently
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| **What you'll do:**  | If you work in research and development, you’ll: * test new ways to develop products in the lab
* use computer models to work out the safest and most cost-effective production methods
* plan how to move lab tests into a pilot production phase, then on to large-scale industrial processing
* develop methods to deal with by-products and waste materials in a safe way

In manufacturing, you’ll:* work with plant designers to create equipment and control instruments for the production process
* help to oversee the day-to-day operation of the processing plant
* monitor production and deal with problems
* work closely with quality control and health and safety managers
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| **What you’ll earn:**  | £29,000 Starter *to* £60,000 Experienced |
| **Working hours, patterns and environment:** | * Typical hours (a week) 39 to 41
* You could work evenings, weekends/ bank holidays on shifts
* You could work in a laboratory, in an office or at a manufacturing plant.
* Your working environment may be outdoors some of the time.
* You may need to wear protective clothing.
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| **Career path and progression:** | With experience, you could progress to senior process or design engineer, research and development manager. You could go on to be a plant manager, or overall operations manager. You could also move into consultancy work. |