

Job roles for the modern chemical engineer

Food processing engineer

- My key skill is in understanding the application of heat transfer and fluid flow principles to the manufacture of foods
- Processes generally require measurement and analysis at the design or troubleshooting stage
- I need to understand the role that food science and microbiology play in the design, manufacture and distribution of food products to meet consumer expectation
- I use simulation tools to aid design and process optimisation
- I often work as part of a larger team of engineers and scientists.

Consultant in the pharmaceutical industry

- I need to understand the technologies behind biochemical engineering to provide the services that our biopharmaceutical clients expect
- I have to understand production and regulatory issues together with the commercial constraints on products.
- I often work on pharmaceutical projects based on other technologies
- My projects range from small consultancy questions to the design, building, commissioning and validation of large pharmaceutical production facilities
- I work with our clients, and with the multidisciplinary teams needed to complete large projects.

Chemical engineer in the water industry

- My functions include the design and development of the wide range of physical, chemical and biological unit operations needed to remove contaminants economically from water and wastewater
- I project manage new works construction, and the management and operation of treatment plant and distribution networks
- I need to understand new technologies which will enable us to meet new legislative quality standards for water supply and wastewater discharge, and to minimise waste streams from treatment processes

Bioproduct engineer

- I am required to understand and keep up-to-date with contemporary developments in diverse areas of technology such as tissue culture, genetics, biochemistry and biochemical engineering.
- Working with medical specialists, lab-based bioscientists and manufacturing specialists, I am required to translate very specific scientific concepts into practical bioproduct specifications.
- My products range from fundamental research through product development to highly targeted technical sales activities
- I may work in diverse environments including academic, small technology-based enterprises or large research-led companies

The job roles listed here are not exhaustive and should only be used as a guide.