

CAREER OPPORTUNITIES

AGS General Studies Chemistry

Analytical Chemist

Analytical chemists use their skills and expertise to analyze substances, identify what components are present and in what quantities, as well as how these components may behave and react with one another. This can include the analysis of drugs, food and other products to determine effectiveness, quality and to ensure they are safe for human consumption or use.

Chemical Engineer

Chemical engineers are involved with the design and development of new products from raw materials. They use their knowledge of chemical properties and reactions to transform materials from one state to another, for example making plastic from oil. Chemical engineers may work in almost any industry, assisting in the production of innovative, high-end products such as ultra-strong fabrics or biocompatible implants.

Chemistry Teacher

Chemistry teachers work in schools passing on their knowledge of chemistry to the next generation, following a set curriculum and helping their students to pass and excel in their school examinations. As well as a degree or equivalent qualification in chemistry, you may also require a teaching qualification (such as a PGCE in the UK) in order to become a chemistry teacher.

Forensic Scientist

Forensic scientists search for and analyze forensic materials found at crime scenes, for example blood and other bodily fluids, hair, or non-biological substances such as paint. They are then able to present this evidence for use in legal investigations and courts of law. Forensic scientists may sometimes be called in to speak in court as experts in their field, to explain the evidence to the jury.

Geochemist

Geochemists study the physical and chemical properties of the Earth, particularly rocks and minerals. They use their knowledge to determine the make-up and distribution of rock and mineral components, and how these may affect the soil and water systems in which they are found. Geochemists may help to identify oil drill sites, improve water quality or determine how best to remove hazardous waste.

Hazardous Waste Chemist

Hazardous waste chemists deal with the management and safe relocation of hazardous materials (hence the common abbreviation ‘hazmat’). They use their expertise to identify harmful chemical components in the air, water or soil, evaluate the danger they present and coordinate their removal and containment.

Materials Scientist

Materials scientists study man-made and natural substances to determine their properties, composition and how they could be transformed or combined to increase effectiveness or create new materials. By analyzing and experimenting with existing materials, materials scientists are able to enhance the way they are used and create new materials to better serve humanity’s needs.

Pharmacologist

Pharmacologists undertake the development and testing of drugs, analyzing how they interact with biological systems. This is essential for ensuring that drugs are effective and safe for human use, and may involve the testing of drugs on animals or on human volunteers. Pharmacology roles are often lab-based and may involve non-standard hours in order to monitor ongoing experiments.

Toxicologist

Toxicologists, like pharmacologists, may study the effects of drugs on biological systems but also look at the effects of other substances, both natural and man-made. They work with and develop methodologies for determining harmful effects of substances, as well as how to judge correct dosages and therefore avoid them. As with pharmacology, toxicology roles are often lab-based and involve the monitoring of experiments and interpretation of results.

Water Chemist

Water chemists, as the name suggests, are concerned with analyzing and maintaining the quality and condition of water, essential for human life on Earth. This is a highly interdisciplinary field, so as well as chemistry you may also need knowledge of linked fields such as microbiology and geology. You may find similar roles under a variety of names, for example hydrologist or hydrogeologist.