

Chemistry

Introduction

Chemistry deals with the basic laws of the physical world and the investigation of the composition and properties of matter. The application of these laws to specific areas has resulted in many discoveries that make our lives more comfortable, healthy and productive. It is rapidly emerging as the discipline at the base of many interdisciplinary subjects such as biotechnology, materials science, molecular biology, and environmental science. The chemistry major at Guilford College explores the fundamental principles of chemistry and examines how those principles are applied to the observable world. Chemistry majors will develop chemical reasoning and experimental skills, as well as an understanding of the interdisciplinary nature of the science. Students with a major in chemistry will be prepared to work in the chemical industry, pursue graduate research in chemistry (or related field), or attend medical or dental school. A chemistry major can lead to many different careers outside chemical or biochemical research. These include teaching, medicine, patent law, business or interdisciplinary areas such as environmental science, molecular biology, pharmacology, toxicology, materials science, geochemistry, and chemical physics.

Approximately 100,000 chemists currently work in the U.S. The majority of these chemists are employed in manufacturing firms—mostly in the chemical manufacturing industry, which includes firms that produce plastics and synthetic materials, drugs, soaps and cleaners, paints, industrial organic chemicals, and other miscellaneous chemical products. Chemists also work for State and local governments, primarily in health and agriculture, and for Federal agencies, chiefly in the Departments of Defense, Health and Human Services, and Agriculture. Others work for research and testing services, and educational institutions. Employment of chemists is expected to grow about as fast as the average for all occupations through the year 2005. In July 1997, the American Chemical Society [reported](#), “with overall unemployment in the U.S. at its lowest level since 1973, job status and salaries of chemists improved considerably after several rough years.”

[Guilford Catalog Information](#)

Related Career Titles for Chemistry Majors

Agricultural Scientist	Patent Examiner
Assayer	Technical Writer
Biochemist	Cytotechnologist
Brewer Lab Assistant	Environmental Health Specialist
Cephalometric Analyst	Fire Protection Engineer
Chemical Oceanographer	Food Scientist Technician
Chemistry Technologist	Forensic Chemist
Clarifying Plant Operator	Genetic Counselor
Professor	High School Teacher
Color Development Specialist	Hospital Administrator
Crime Laboratory Analyst	Hydrologist
System Analyst	Industrial Hygienist
Underwater Technician	Molecular Biologist
Wastewater Treatment Chemist	Tissue Technologist
Occupational Safety Specialist	Vector Control Assistant
Perfumer	Water Purification Chemist
Pharmaceutical Sales Representative	Product Tester
Physician	Quality Assurance Manager
Planner	Risk Manager
Plastics Engineer	Science Laboratory Technician
Quality Control Technician	Soil Scientist
Associate Chemist	Toxicologist
Analytical Chemist	Veterinarian
Clinical Technician	Yeast Culture Developer
Chemical Safety Engineer	Chemist
Clinical Chemist	Pharmaceutical Researcher
Pharmacologist	Research Chemist
Laboratory Analyst	Consumer Protection Specialist
Laboratory Manager	Food and Drug Analyst

Industrial Health Engineer
Medical Technologist
Nutritionist
Research and Development Chemist
Technical Sales Representative
Anesthesiologist
Cooperative Extension Agent
Hydrogeologist

Oceanographer
Optometrist
Patent Agent
Pharmacist
Radiologist
Specification Writer
Water Scientist

Related Major Skills

- Developing theories
- Conducting research
- Processing and analyzing data
- Curiosity
- Utilizing formulas
- Working independently and in groups
- Oral and written communication
- Science and math ability
- Perseverance
- Performing experiments
- Ability to make critical observations
- Objectivity
- Aptitude for accurate details
- Deriving information from computers
- Responsibility
- Desire for continuous learning
- Sensitivity to the health and safety of others

Related Web Sites

Job Listings/Job Search

Science Careers <http://www.sciencecareers.org/>

A Job For Scientists Job Listings <http://www.ajob4scientists.com/>

American Chemical Society Job Listings <http://pubs.acs.org/plweb/indexpl.html>

Chemical Online Job Listings <http://vertical.worklife.com/onlines/chemicalonline/index.html>

Job Listings from *Science* <http://recruit.sciencemag.org/>

Nation Job Agricultural Biotech Chemical Job Listings <http://www.nationjob.com/ag/>

Triangle Jobs—Technical Jobs in RTP, NC-area <http://www.trianglejobs.com/>

The Royal Society of Chemistry (UK) International Job Listings <http://www.chemsoc.org/careers/careerops.htm>

Chemjobs.net <http://www.chemjobs.net/>

Nature Jobs' Science Jobs Listings <http://www.nature.com/naturejobs/>

Career Planning and Information

The Alchemist's Lair—Information about Chemistry Jobs <http://webserver1.oneonta.edu/faculty/pencehe/careers.html>

Chemistry: The Profession—Links about Chemistry Careers <http://www.chemistrycoach.com/chemistryprofession.htm>

Career Planit's Information on Chemistry Careers <http://www.careerplanit.com/resource/article.asp?subid=1&artid=37>

UCLA's Chem Pointers <http://www.chem.ucla.edu/chempointers.html>

RSC's Information on Chemistry Careers <http://www.rsc.org/lap/educatio/careers.htm>

Organizations and Associations

American Institute of Chemists <http://www.theaic.org/>

American Chemical Society <http://www.acs.org/portal/chemistry>

American Institute of Chemical Engineers <http://www.aiche.org/>

The Minerals, Metals, and Materials Society <http://www.tms.org/TMSHome.html>

American Association for the Advancement of Science <http://www.aaas.org/>

Forensic Chemistry Network <http://www.geocities.com/CapeCanaveral/4329/>

Center for Chemistry Education <http://www.terrificscience.org/>

Chemical and Engineering News <http://pubs.acs.org/cen/index.html>

Atmospheric Chemistry on the Web <http://airsite.unc.edu/>

ChemWeb <http://www.chemweb.com/>

Chemical Week on the Web <http://www.chemweek.com/>

Journal of Chemical Education <http://jchemed.chem.wisc.edu/>

Miscellaneous

Guilford College Chemistry Department <http://www.guilford.edu/original/academic/chemistry/>

ChemFinder.Com <http://chemfinder.cambridgesoft.com/>

ChemInfomatics <http://macedonia.nrcps.ariadne-t.gr/>

How To Pass Chemistry <http://www.heptune.com/passchem.html>

Web Index for General Chemistry <http://www.sfu.ca/chemcai/genchem.html>

General Chemistry Online <http://antoine.fsu.umd.edu/chem/senese/101/index.shtml>