Careers in Chemistry: Pathways, Challenges and Success

Chemistry underpins many varied industries including manufacturing, petrochemical processing, drug research, agricultural science and criminal investigation. Chemists play leading roles in the fight against disease, development of environmentally friendly industrial processes, ensuring the quality of food and beverages, and the creation of new materials, particularly at the nanoscale. An inquiring mind, ability to work in small teams and desire to design and conduct scientific experiments creates opportunity in both private and public sector organisations that value high level skills in conducting research and analysing the results of scientific investigation. And these skills are not just valued in Australia, they open up a whole world of opportunity.

Engage in your career before you graduate

To be competitive in the workplace it is important to demonstrate your willingness to engage with potential employers early. Find a niche that you are interested in BEFORE completing your degree. Active participation in industry helps to set you apart: you are then able to provide specific examples demonstrating the skills and capabilities you offer as a graduate and your passion shines through.

Show prospective employers you are an active contributor. Some useful tips include:

• Seek opportunities to gain experience in a scientific laboratory setting as a student and apply for paid vacation work within industry.

• Become actively involved in a relevant student society and the professional association for chemists (The Royal Australian Chemical Institute) to develop and increase your networks.

• Attend Careers events linking you with Industry. See myMurdoch Career (murdoch.edu.au/mymurdochcareer).

• Consider a study abroad or exchange to another university.

• Engaging in opportunities through Murdoch University or the Guild e.g. PASS/PAC Leader, Student Ambassador or Peer Tutor.

• Entering Student Competitions that showcase problem solving, team work etc..

• Creating a Linkedin profile and follow relevant industry organisations /connect with professionals you meet.

• Seeking complementary part-time/casual work or volunteering in areas promoting science / STEM (e.g. Museums, Scientific School Education out-reach programs).
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Careers and industries in Chemistry

Chemistry graduates typically work in commercial and factory/chemical plant based laboratories, out in the field, in specialist research institutes and universities. For specialist roles, particularly those that require high level scientific interpretation skills, such as Forensics, often require further study beyond bachelor level. Below is a list of some careers and job titles that graduates in Chemistry including those from Murdoch have secured:

• Analytical Chemist/ GC Chemist/Quality Assurance analyst
• Polymer Chemist/ Industrial Chemist/ Nanotechnologist
• Environmental Chemist/Soil Scientist
• Forensic Scientist/Fire investigator
• Laboratory Manager/Technician/ Assistant
• Product Development Chemist (paints, fertilisers, building products…)
• Regulatory Compliance Associate/ Patent examiner
• Research Projects Officer
• Science / Chemistry Teacher (Secondary, Vocational)
• Toxicologist

Industries include; Government, Mining and Resources (minerals, oil, gas, agriculture, biotechnology), Manufacturing (polymers, materials, agricultural chemicals, brewing and winemaking) Human and Animal pharmaceuticals, Health, Environment and Agricultural Research Institutes, Education, Advisory and Consultancy firms (particularly in the Environmental, Agricultural and Patent areas) and Non-Government Global Organisations.

Adaptability of your Chemistry degree and alternative careers

Your passion for science and the analytical, research, technical, scientific interpretation and writing skill base developed through your Chemistry degree can be applied to other careers that you might not even have thought about. Considering a second major or an additional minor / co-major can further diversify your career options.

Here are some more suggestions that identify the major skills component:

• Scientific Journalism, Public Relations, Business Development (utilising scientific communication skills that you build with writing detailed reports and presenting to fellow students and academics – also great if you are a blogger).
• Policy Development relevant to Science and Technology.
• Retail, Sales and Marketing of Scientific services and equipment (you will utilise your numeracy skills acquired from Chemistry; scientific and technical knowledge together with communication for marketing scientific instruments etc.)
• IT and Technology roles (you will have processed data using spread sheets and other databases, utilised computer software/models and created educational technologies for online simulated chemistry experiment reporting).
• Project Management/Consulting (business advisory organisations consult/ communicate to the scientific community and value a good science degree for industry-relevant liaison).
• Training and Development (industry-based)
• Patent Attorney (when combined with law).

Chemistry graduates are also sought after for multi-discipline Graduate Program roles, which provide an excellent foundation for an alternative professional career. Graduate Programs are structured professional development programs specifically designed for new graduates. Final year students apply for these positions from March for the following year. Murdoch Chemistry graduates have previously secured Graduate Officer roles with both Government Departments as well as large commercial and industry organisations.

A degree in Chemistry can open many different doors but you have to pave your own journey through your experiences. You have the ability to continuously develop your career by actively engaging in university life, networking initiatives, and stepping up to opportunity. Choosing Chemistry is just the beginning.

Useful Links
Royal Australian Chemical Institute raci.org.au
Royal Society for Chemistry rsc.org/careers/future/

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