

Graduate attributes and characteristics

Chemistry and Biomedical Science 2005

Communication	Social responsibility
Oral	OH&S
Listening	Lab behaviour
Essay	Professional ethics
Reports	Environmental ethics
Graphical & Numerical	Bioethics
Information literacy	Problem Solving
Library Searching	Mathematical
Internet Searching	Case studies
Interpreting Information	Conceptual
Quality of Information	

Chemistry Major Levels of Attainment 2005

Communication skills
1. Oral: To describe, discuss and predict the results of experiments in the laboratory and to contribute to discussions in tutorials and workshops.
2. Oral: Students should be competent in giving a short oral presentation using appropriate structure and technologies to their peers.
3. Oral: Students should be competent in giving a short oral presentation using appropriate structure and technologies to a group of experts.
1. Written: Be able to collect and collate information, describe the information and establish simple arguments in written form.
2. Written: Be able to utilize well-reasoned arguments, presenting a balanced perspective in their writing supported by citation and relevant literature.
3. Written: Be able to formulate well-constructed arguments and to illustrate these in an appropriate manner and in logical sequence with a variety of writing styles and formats.
1. Graphical and Numerical: Be able to produce clear and accurate simple graphs, and to use simple algebraic techniques.
2. Graphical and Numerical: Be able to produce clear and accurate complex graphs, and to use basic calculus, geometry and trigonometry.
3. Graphical and Numerical: Be able to produce clear and accurate complex graphs using computer software, and to use more advanced mathematical techniques.
Social responsibility skills
1. To be aware that there are ethical dimensions to many of the issues associated with professional practice and that these issues have to be considered in decision making.
2. To differentiate and evaluate the ethical dimensions to issues associated with professional practice.
3. Accept responsibility for outcomes and to apply the learning to workplace situations.
Information literacy skills
1. Apply the basic skills required to acquire, organize and present information.
2. Interpret and assess the information for a range of applications.
3. Initiate research ideas and advanced level of information literacy that can be applied to new contexts and situations.
Problem solving skills
1. Show evidence of an understanding of the principles of problem solving for a known problem in a narrow discipline area.
2. Show evidence of the ability to solve problems for an unknown problem in a narrow discipline area.
3. Apply the process of problem solving in a multidisciplinary context, but with a dominant cause of the problem

Chemistry Major and Stream Promotional Material

UNE has designed its chemistry major to deliver well-rounded chemistry graduates who have all the required knowledge and skills to perform at the highest level of chemistry practice. At UNE we believe that our chemistry graduates should not only master chemical concepts, theory and practice, but they should also emerge with the proficiencies that enable them to work effectively as professional chemists. In order to do so they acquire a range of graduate attributes, which the major is designed to provide. The chemistry major focuses on four in particular that are viewed as critical to successful prosecution of the discipline of chemistry.

- In Science in general and particularly in chemistry, **communication** of ideas and results is paramount, so we teach, practice and assess both written and oral presentation skills.
- Chemical knowledge and judgement is founded upon information - new, old and improved chemical concepts, data and ideas. **Information literacy** or the skills in gathering and critically analysing chemical information is therefore an essential skill for any chemist. For this reason we teach, practice and assess information literacy skills.
- **Social responsibility** is vital in the professional execution of chemistry. Issues such as occupational health and safety, professional ethics, responsible laboratory behaviour and environmental ethics regularly arise in the chemistry work place. For this reason the chemistry major is designed to develop recognition of these issues and skills in social responsibility.
- Chemistry is about **problem solving** – problems of both a qualitative and quantitative nature. Much of what a chemist does involves the challenge of solving some kind of problem. Throughout the chemistry major we provide a thorough grounding in many aspects of problem solving, including ways of recognising and addressing a wide range of chemical problems.

In undertaking a UNE chemistry major you will graduate as a recognised and trained practitioner of the discipline; we will provide you with the knowledge, skills and attitudes that are particularly sought by employers. The UNE chemistry major is fully accredited by the Royal Australian Chemical Institute.