Dr Peter Smith Scholarship in the Physical Sciences - Further Information and Career Outcomes

Chemistry

The School of Natural Sciences offers units for students specialising ('majoring') in chemistry and, additionally, units for those intending to apply chemistry in other areas such as agricultural science, the biological sciences, engineering, environmental concerns, and medicine and pharmacy.

Chemistry is central to the understanding of biological, geological, industrial and environmental systems, and is therefore one of the most useful subjects a student will study. Expertise within the School of Chemistry in Hobart reflects this exciting diversity of opportunities.

Research in the School of Chemistry, which attracts many international students and visitors, is widely supported by government and industry.

The research is pertinent to a range of industrially and socially important issues and demonstrates the pivotal role of chemistry in many fields of endeavour.

Typical employers include:

- Schools, colleges, TAFE institutes and universities
- Medical and scientific research bodies
- Commonwealth and state government departments, eg CSIRO
- Analytical and control laboratories
- Defence forces
- Hospitals
- Industrial, agricultural, mining and manufacturing companies, eg BHP, Tasmanian Alkaloids, Nyrstar, Cascade, Boags, Orica
- Analytical service companies
- Food and beverage producers
- Pharmaceutical companies, eg Marinova

Mathematics

The School of Natural Sciences offers units for students specialising in mathematics or intending to use mathematics in other areas. Units are designed to enable students to apply mathematics to other disciplines in the physical or biological sciences, commerce, economics and engineering.

Some employment opportunities for mathematics graduates are in the following fields:

- Weather forecasting
- Statistics
- Operations research
- Market forecasting
- Analysis of econometric data
- Computer programming
- Data processing
- Logical design
- Industrial consultancy
- Teaching

Typical employers include:

- Universities

- Schools
- CSIRO
- Government agencies (ie Defence, ABS)
- Telstra

In the private sector, opportunities exist with:

- Computer firms
- Insurance companies
- Mining companies
- Banks

Physics

Physics is the fundamental science, which forms the foundation of engineering and technology, and provides a basis for an understanding of biology, chemistry, geology and other sciences.

Physics generates fundamental knowledge needed for the future technological advances that will continue to drive the economic engines of the world. Physics contributes to the technological infrastructure and provides trained personnel needed to take advantage of scientific advances and discoveries. Physics is an important element in the education of chemists, engineers and computer scientists, as well as practitioners of the other physical and biomedical sciences. Physics extends and enhances our understanding of other disciplines, such as the earth, agriculture, chemical, biological and environmental sciences.

With a major in physics, employment possibilities are present in:

- Antarctic science
- Astronomy and Space science
- Biophysics and biotechnology
- Education and teaching
- Electronics and computing
- Environment
- Forensic science
- Geophysics
- Industrial research
- Journalism
- Management
- Materials Science
- Medical and hospital physics
- Meteorology
- Nuclear physics
- Oceanography
- Patents

Even without a full major in physics, employment in teaching, electronics and computing is possible.

The School of Natural Sciences offers units for students who intend to make physics their career and for those who need physics to support their studies in other disciplines.

Students who wish to major in other disciplines will find that physics provides them with important basic knowledge and skills such as general problem solving and laboratory techniques.

Professional Associations

Students are encouraged to explore professional bodies in their area(s) of interest as these can offer both support for their studies and good career path advice, as well as access to ongoing professional development activities and resources. These include:

- Chemistry: Royal Australian Chemical Institute (RACI), see www.raci.org.au
- Mathematics: Australian Mathematical Society, see www.austms.org.au
- Physics: Australian Institute of Physics (AIP), see www.aip.org.au