ACE SCIENCE

INSPIRING MINDS

Melrose High School's ACE Science Education Centre

Melrose High School's ACE Science is a multi national award winning programme for higher achieving students in Years 8 to 10. ACE Science delivers an authentic science experience through traditional lessons supplemented by a range of activities that link students with practising scientists and engineers and their working environments. These include Science Seminars presented by some of Australia's leading scientists, Science Tours to leading academic and industrial facilities, and Science Mentors which partners students with academic mentors. In addition, specific science skills are explicitly taught, including experiment design, sceptical thinking, and the philosophy of science.

ACE SCIENCE EDUCATION CENTRE

The ACE Science Education Centre (SEC) is a dedicated science teaching facility at Melrose High School. In addition to a traditional, fully equipped and decorated Teaching Laboratory, two additional laboratories – the "Physics Lab" and the "ACE Lab" – have been created to accommodate longer term student-centred projects such as Science Investigations and Science Mentors projects. Dedicated science laboratories means student-centred investigations can be pursued without the time constraints of a single lesson: students can leave instruments set up for use over several lessons or several months as the experiment progresses. The SEC includes a discussion area for investigations that do not require laboratory space, such as psychology.

An important aspect of the SEC is the installation of instruments for gathering real-world data for use in student-centred investigations. Current facilities include suites of data loggers with a variety of sensors, oscilloscopes, air track, ripple tank, optical benches, spectroscope and microscopes. The SEC also features a weather station, seismometer, and Global Navigation Satellite System antenna. Live data feeds from these instrument suites are displayed in the Teaching Lab, with archived data available for student projects.

The ACE Science Education Centre is a corner-stone of ACE Science, providing a well resourced learning environment where scientists and high school students can engage and explore authentic science.

ASTRONOMICAL TEACHING OBSERVATORY, MOUNT STROMLO

In addition to the SEC, a new Astronomical Teaching Telescope (ATT) is currently being constructed on Mount Stromlo. Part of ANU's Research School of Astronomy and Astrophysics, the ATT will be a facility for public school and college students across the ACT for in-depth investigations in astronomy. (Estimated completion mid 2016. See separate brochure for details.)

For more information contact

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FEATURES OF ACE SCIENCE

ACE Science is based on the philosophy of connecting high school students with practising scientists and their environments. This is done through the following four programmes.

SCIENCE SEMINARS

Science Seminars are fortnightly presentations by speakers from academia and industry ranging from undergraduate students to professors. Fields range from cosmology to medicine, entomology to radio physics.

SCIENCE TOURS

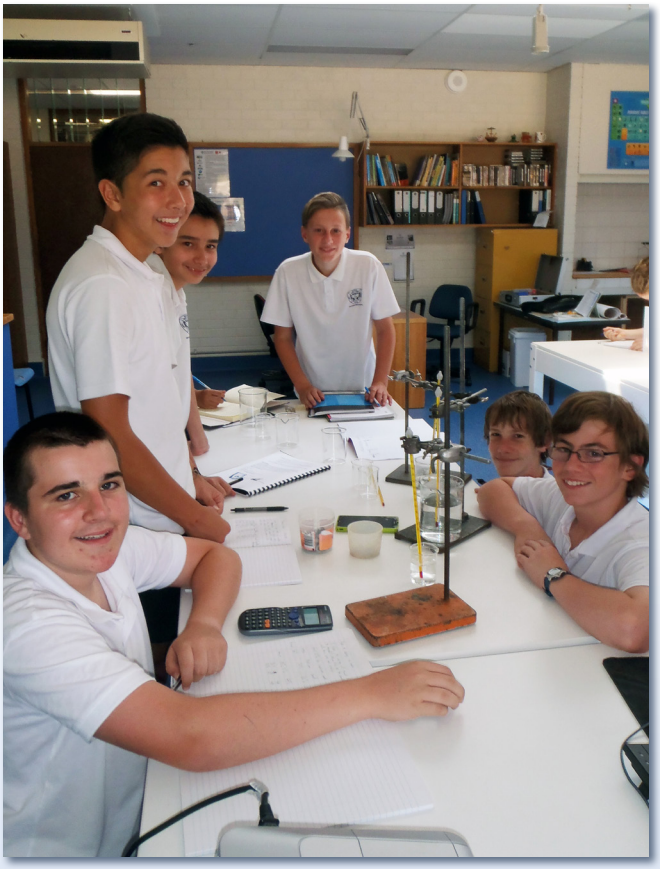
ACE Science Tours are designed to familiarise students with working science and engineering laboratories, as well as Canberra's engineered and natural environment. Science Tours introduce students to universities as places of future study and expose students to a wide range of science disciplines. Students are required to take notes throughout the Tours. Students attend four Science Tours each year to up to eight different venues.

SCIENCE WORK EXPERIENCE

Year 10 ACE Science students have been successfully placed at a variety of science and engineering facilities in and around Canberra. Fields include medicine, fibre optics, entomology, science communication, chemistry, psychology, radio engineering and physics. Science Work Experience is often coupled with Science Mentors projects (see below).

SCIENCE MENTORS

Students with an interest in a specific science discipline are partnered with a researcher or other expert in that field who can use their subject-specific knowledge and expertise to lead the student(s) through a medium term (up to 6 months) project. Science Mentors students are given their own work station in the Science Education Centre for the duration of their project. Each Science Mentors project results in a formal, refereed report that describes in detail the students' learning.



In cooperation with

Australian National University

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AuSIS: Australian Seismometers in Schools Network

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Capital Pathology Quality is in our DNA

Winner of

NEiTA Recognising Excellence

Prime Minister's Prize

Australian museum Eureka Prizes 2012 Winner