# Unifying WIL in Science at the University of Tasmania

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## Objectives

1. develop a generic program for on- and off-campus WIL in Science and related disciplines at the University of Tasmania (UTAS)
2. develop a network of industry contacts for WIL in Science and related disciplines for Tasmania
3. create a Faculty Advisory Board for industry engagement

## Background

The University of Tasmania (UTAS) is committed to providing real world experiences for students and equipping graduates with the skills required for participation in national and international work. Work Integrated Learning (WIL) is one mechanism by which students can attain such skills and experiences and improve their employability. The current University WIL policy (May 2011) provides for student placement in industry, but also for on-campus workplace simulations linked with authentic assessment.

The Faculty of Science, Engineering and Technology (SET), comprised of five schools and 11 disciplines, offers a generalist Bachelor of Science (BSc), with 17 majors. Uptake of WIL is far less in the Bachelor of Science than other STEM disciplines at UTAS (including ICT, Engineering, Surveying and Agriculture), many of which have a requirement for work placement for professional accreditation. This disparity is consistent with national trends (Edwards, Perkins, Pearce, & Hong, 2015).

Despite pockets of WIL activity in these other STEM disciplines, the faculty lacked a generic WIL program suited to broad implementation across its disciplines, or a mechanism by which to identify and engage with industry partners.

## Project description

Academics, students and representatives from industry were surveyed or interviewed regarding their perceptions of WIL and employability of UTAS BSc graduates. They were also asked for their opinions on a generic placement or project unit to be undertaken for credit by intermediate-level (i.e. second-year) students. Approval from the Human Research Ethics Committee at UTAS was sought to enable the publication of project outcomes (H15699). The project team also liaised extensively with colleagues in other faculties and at other universities to discuss their approaches to WIL, especially in relation to administration, coursework, assessment and industry engagement.

## Outcomes

Academics differed in the breadth of activities they classify as WIL independent of disciplinary area. Types of WIL currently offered in the BSc varied from limited to none in Mathematics and Physics, to use of authentic experiences in practical units in disciplines such as GIS and Spatial Science or research projects in Chemistry, Plant Science and Zoology, typically in third year.

Several academics stated that students in their disciplines undertook voluntary or summer vacation work that may meet the professional work requirements of the proposed unit. Consistent with this, 46% of BSc students who responded to the survey (n = 76) preferred to undertake such a unit in the summer semester.

Industry were in general supportive of the proposed WIL unit(s). In interviews, generic attributes of communication, team work and a broad general knowledge were regarded as important to graduate employability. The flexibility in mode of delivery of the unit was positively received, with large organisations more receptive to students working in groups on an industry project, whereas smaller businesses had a preference for hosting one to two students. The timing of some business activities was in some instances noted to be out of step with the UTAS semesters, which needs to be taken into account when planning for WIL professional placements.

Subsequently, the STEM WIL unit (intermediate level, 12.5% credit KAA205) was approved by Faculty and University Learning and Teaching Committees for delivery in 2017. The unit includes options for students to undertake either a placement or a group project for an industry client, and will embed a new online resource, ResumePLUS, coordinated by UTAS Career Services.

## Additional outcomes

In addition to the development of the STEM WIL unit, the project provided a number of extra benefits for the faculty.

* The project provided the opportunity for the Faculty to aggregate within-school activities in WIL. All staff were made aware of the project and unit coordinators invited to participate in project workshops.
* It provided the impetus for the new Faculty Executive to consider how it engages with industry, including the potential inception of a Faculty Advisory Board to facilitate consultation with existing industry stakeholder groups on issues pertaining to learning and teaching, research and community engagement.
* The inception of a Faculty Industry Reference Group or another model will promote consultation on industry linkages in learning and teaching, research and community engagement.
* The general sciences are now represented as a discipline in the UTAS Community of Practice in WIL.
* The development of the STEM WIL unit aligned with a new White Paper on curriculum renewal at UTAS, which includes a commitment to expanding WIL across the university.
* The coordination of WIL across UTAS is proposed to be undertaken by a new Centre for Experiential Learning and includes additional investment in the placement management software, InPlace, to connect students with the workplace.
* The project promoted intra-faculty team work and provided an opportunity for professional development in the scholarship of learning and teaching of junior staff
* The project leader received faculty acknowledgement with a promotion to Deputy Associate Dean Learning and Teaching, and her secondment to the UTAS-wide Curriculum Renewal Project

## Recommendations/ advice

A key observation when developing a new WIL in Science unit is to build on the experiences and resources from within the university and other institutions. This however must be contextualised to the degree structure, student needs, industry capacity and available resources.

## Next steps

The introduction of the new STEM WIL unit is just the beginning. The project team is currently working on:

* Complementary units, including an advanced-level and extended duration (25% weight) units
* The systematic embedding of WIL in the majors and units in the BSc through the Curriculum Change Project
* Upscaling WIL in Science through facilitation by a new Centre of Experiential Learning and the adoption of placement management software, InPlace – outcomes of the curriculum renewal White Paper.
* Finalising the process for the Faculty Executive to consult with industry.

## Reference

Edwards, D., Perkins, K., Pearce, J., & Hong, J. (2015). Work Integrated Learning in STEM in Australian Universities. Final report submitted to the Office of the Chief Scientist. Retrieved from <http://www.chiefscientist.gov.au/wp-content/uploads/ACER_WIL-in-STEM-in-Australian-Universities_June-2015.pdf>