OVERVIEW

The Flinders University STEM Work Integrated Learning (WIL) program has a long history of sustained excellence and continues to receive external accolades and recognition from multiple stakeholders including industry host partners, Engineers Australia, and colleagues from neighbouring degrees within the College of Science and Engineering. The program has been highly commended by industry, labelled the "gold standard" nationally by Engineers Australia, received University awards, and recently won an Australian Awards for University Teaching (AAUT) Program Award. Our unique STEM WIL program consistently delivers outstanding graduate employability, and high student learning and student satisfaction rates when compared state-wide and nationally. This is despite being a smaller university based in South Australia, where employment rates are commonly the lowest nationally.

Flinders University's unique WIL program immerses students in industry for up to 100 days, the longest undergraduate, core, credit-based placement in Australia. The program is led by a skilled team of staff who engage closely with all stakeholders and provide guidance and feedback surveys to industry, academics and students prior to, during and after the 100-day placement. The program's success has led to sustained expansion from 20 engineering students in 1994 to now over 300 students annually across all STEM disciplines. The program models every criterion for good WIL practice identified in the literature, drawing on decades of established WIL knowledge and Flinders University's proud history in delivering quality WIL programs.

INTRODUCTION

Since its inception in 1994, the Flinders University WIL program has successfully facilitated more than 2000 students to work on authentic, discipline-related innovative projects. This program is longer and programmatically different to other universities, while also being adaptable to each discipline's unique needs. The principles are to provide all students with an opportunity to work on more substantial projects, develop deeper relationships with their work colleagues, and better understand company culture and the sector they work in, which can convert into employment post-placement.

The WIL program design consists of curricula divided into three interrelated subjects: Workplace Preparation, Project Management, and the WIL Placement. Figure 1 provides an overview of the timeline for these three subjects (where 4.5 units = 1 standard subject load and full-time = 18 units).

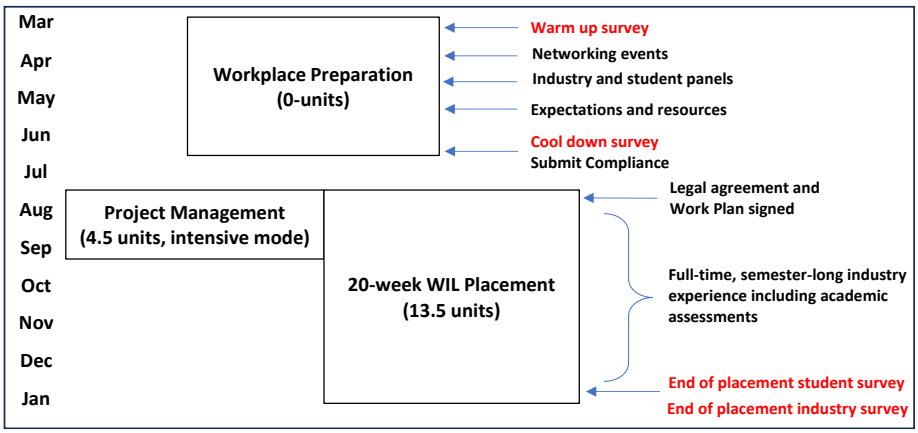

Figure 1: The timeline and sequence of WIL subjects at Flinders University.

Students typically complete the Workplace Preparation subject in the first half of the year alongside technical subjects, with the remaining two WIL subjects completed in the second half, though students can have flexibility with the timing depending on their Study Plan. The preparation component of the WIL program introduces students to industry expectations of professionalism and standards within the workplace, including past WIL student, alumni, and industry Q&A panels, industry networking events, and work health and safety requirements, to build career readiness.

Originating in our Engineering discipline, the Flinders University WIL program has demonstrable longevity and sustainability and has expanded significantly in recent years to benefit neighbouring degrees. This unique WIL program is designed to be flexible so any STEM discipline can enter this

program and host authentic industry experiences. This flexibility has resulted in strong expansion with 100-day placements now available to all students enrolled in all STEM degrees. The program employs a unique, multi-layered and responsive structure to satisfy two key requirements: (1) the industry need for work and innovation and (2) the student need for an authentic WIL experience for credit. Unlike typical WIL programs that focus on one or limited disciplines, this WIL program incorporates multiple STEM disciplines and has expanded consistently and significantly into neighbouring degrees, as shown in Figure 2.

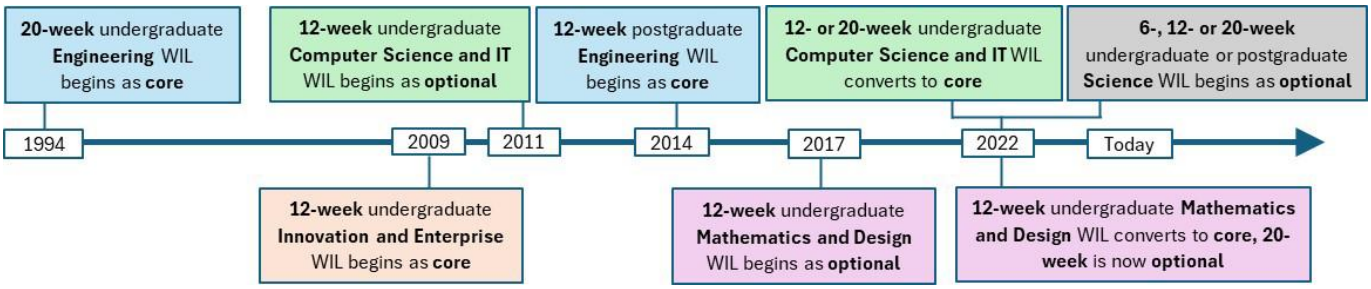

Figure 2 – The WIL STEM timeline at Flinders University.

The successful expansion of this Engineering WIL Program across multiple STEM disciplines, coupled with strong positivity from industry, was consolidated in 2022 to include all disciplinary areas throughout the College. 100-day placements are now available to all students enrolled in all STEM degrees. Adoption of the Engineering WIL program by the College is evidence of Level 5 impact ('*narrow systemic adoption*') according to the *Impact Management Planning and Evaluation Ladder* or IMPEL model (Hinton, 2016).

EVIDENCE OF POSITIVE IMPACT ON STUDENTS

Flinders University's Engineering programs rank first in South Australia for graduate employment, learner resources, learner engagement and student support, and in the top quartile nationally for overall student experience (QILT). A long history of providing students with a well-designed opportunity to experience a full semester immersed in industry, away from the classroom, has resulted in strong impact metrics. The latest national comparative data from ComparED (2022 and 2023) and The Good Universities Guide (2025) reveals this impact at a program level, while University-run survey data reveals the impact and success at multiple stages throughout the WIL program cycle.

The latest national QILT data for graduate employability is shown in Figure 3. This comparison reveals that Flinders University undergraduate engineering students (shown in yellow) are employed at a higher rate compared to the average of remaining South Australian universities, the national average, and the Group of 8 University average.

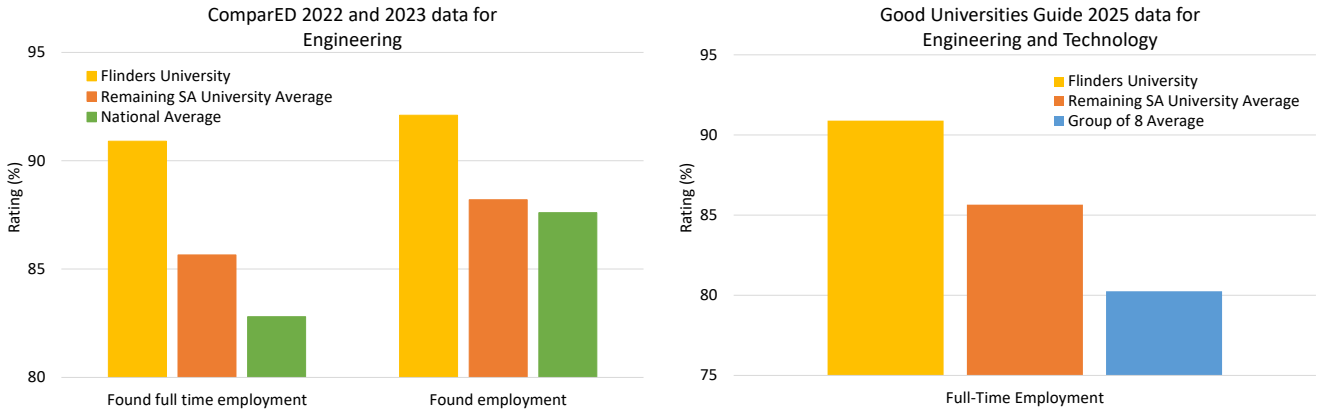

Figure 3: National employment rates for graduates.

The comparison shown in Figure 4 reveals that Flinders University (shown in yellow) performs well for a wide range of educational experiences. These key performance indicators improve when students experience a longer and more thorough WIL program, coupling them to industry during their studies, and supporting them to pursue their chosen passions and career path.

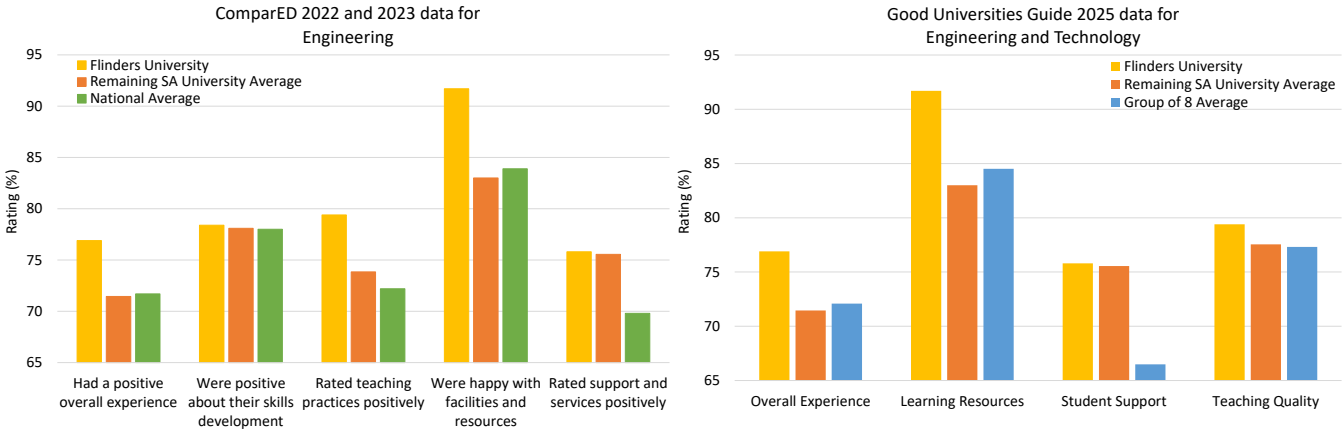

Figure 4: Educational Experience Statistics.

A critical component of the WIL program is student engagement in shaping the program. Embracing best practice principles (Schonell & Macklin, 2019), four surveys are conducted throughout each WIL program cycle, three of which are analysed for student feedback to ascertain confidence or uncertainty. The first two surveys are referred to as the 'Warm up' and 'Cool down' surveys (shown in Figure 1). These complementary surveys are designed to determine each student's understanding and confidence before and immediately after the Workplace Preparation subject. Student engagement survey data for the last five years is presented in Figure 5.

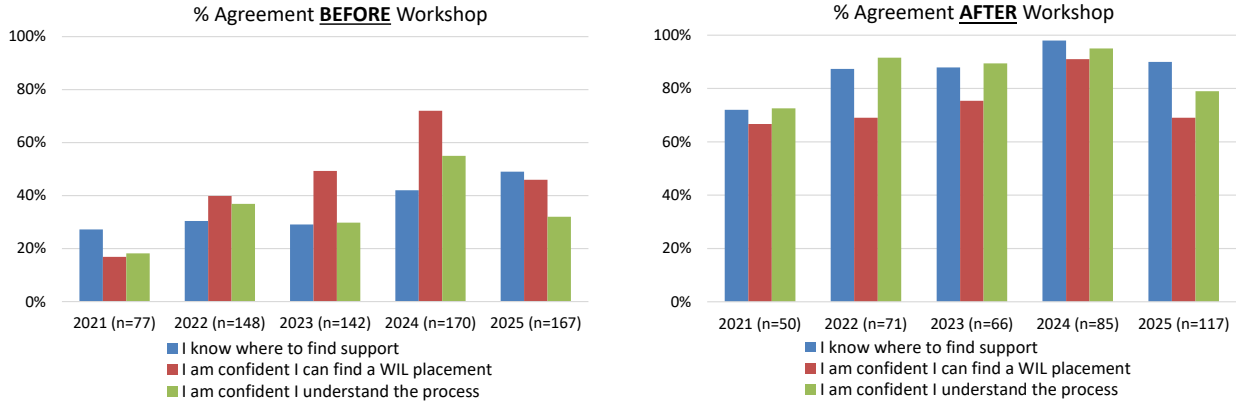

Figure 5: Impact of the Workplace Preparation Subject.

The results consistently show that prior to commencing the Workplace Preparation subject, less than half of the cohort each year knew: (a) where to find support, (b) were confident in finding a placement, or (c) understood the processes for securing a WIL placement. After completing the Workplace Preparation subject, students reported a substantial increase in their knowledge for all 3 categories, and in most categories each year, the increase was typically two-fold. Additionally, university Student Evaluation of Teaching (SET) surveys are conducted for each delivery of Workplace Preparation (Figure 6). Data over 7 years reveals that most students 'Agree' or 'Strongly Agree' the subject provided a worthwhile learning experience, and that the team were effective teachers.

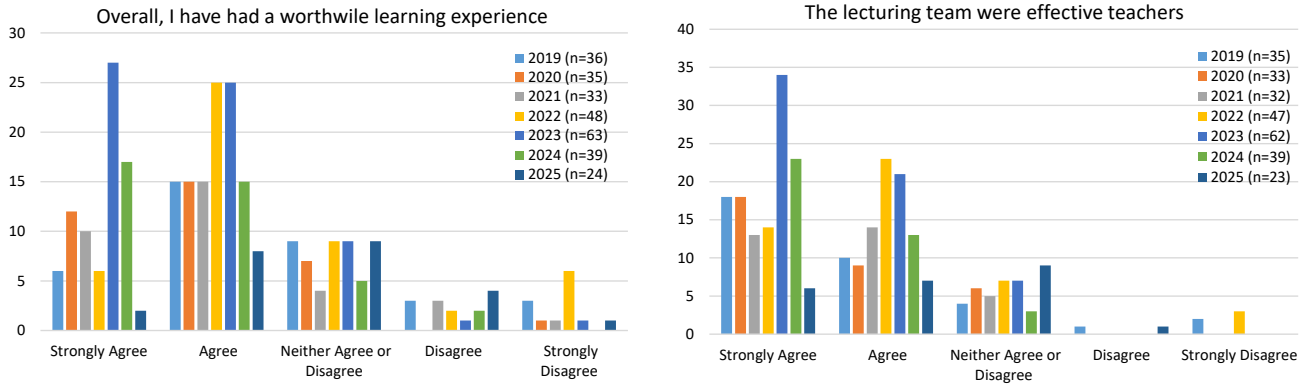

Figure 6: Student Evaluation of Teaching feedback for the WIL Preparation subject.

At the conclusion of each WIL Placement, automated and anonymous 'End of Placement' surveys indicate that more than 93% (n=533) of respondents from 2019-2025 felt they were better prepared to transition into graduate employment following their WIL placement. Additionally, 97% (n=533) of students were satisfied with what they achieved during their placement, indicating very high satisfaction levels when reflecting on their time with industry. 81% (n=506) of students agreed they received a good level of support during their placement, reinforcing the value of the WIL structure and framework designed to support students during their placement, an aspect specifically commended by Engineers Australia during successive Accreditation visits. Below is indicative feedback received from students after completing their 20-week placement:

I did a 20-week placement with Nanyang Polytechnic and it was the best thing I've done in this degree by far. I was able to get to know the workplace and the people a lot better, and I was given more of a chance to really accomplish more in terms of the projects that I was working on. (Biomedical Engineering student, 2019).

I really enjoyed the work type that I was given. Working on cooling systems allowed me to actually take the theory learnt in university and apply it in a real-world situation. I've been offered a position in the ASC engineering graduate program. (Mechanical Engineering student, 2020).

EVIDENCE OF POSITIVE IMPACT ON INDUSTRY

The Flinders Engineering WIL program has an exceptional standing in the professional community, with record high employment rates and industry satisfaction. Industries that offer placements to our students praise our innovative configuration that accommodates students immersed in industry for up to 3 times longer than other universities (it's common for the immersive component to be 6 - 8 weeks of the required 12 weeks, with guest lectures or site visits fulfilling the remaining time). This longer immersion on placement allows students to engage in meaningful work and provides industry with a stronger return on their investment.

The quality and recognition of our WIL program is monitored and shaped by key industry leaders (as members of the College Advisory Board) and via the 'End of Placement' survey sent to all industry hosts to solicit feedback on their placement student, and to ask for ways to improve the WIL program overall. These surveys have revealed 73% (n=528) of our WIL students receive some form of employment offer following their placement. Industry positions are not always available when our students complete their placement, but based solely on their WIL experience, 95% (n=466) of our industry hosts would hire a Flinders graduate if a position was available at the time. Moreover, 97% (n=467) of our industry hosts commit to hosting again the following year.

The 'End of Placement' survey provides an opportunity for WIL hosts to comment further on their placement student or the WIL program itself. Below is a list of quotes received from industry, highlighting the impact of the WIL program to their company:

As an employer, the opportunity to embed a student into the work environment whilst they are still able to access support and oversight from the University staff provides a valuable point of difference to the traditional approach to providing work placements. The 5 month period provides opportunity for the student to be trained in the type of work they are doing, get actively involved in meaningful client facing work and hopefully see some of the projects they get involved in to completion. Critically, the student is supported beyond the work placement host so that if issues arise there is the opportunity to work with the University to provide the best possible experience for the student. In our experience too often work placement students need to fill the time and get provided tasks to do, which doesn't provide the beneficial meaningful experience that they need. The Flinders WIL program addresses this through the longer time period, greater support from the University and the greater flexibility over the period of time that the student spends in the workplace. The Flinders WIL is a fantastic initiative and Flinders should be congratulated for the program. (CEO, Tonkin, 2023).

The Flinders WIL team has been exceptional in listening to industry needs, incorporating essential flexibility and linking passionate academic supervisors to each WIL project (Micro-X COO, 2022).

The 5-month model works very well with Industry and gives both parties the best opportunity to integrate within the business and provides an opportunity to continue with an Industry led honours project (SAGE Automation, 2022).

EVIDENCE OF POSITIVE IMPACT ON AAEE COMMUNITY

For four successive Accreditation cycles (2009, 2014, 2016 and 2021), Flinders University's WIL program has been awarded one or more 'Commendation', the highest rating a program can receive when it is evaluated by Engineers Australia. These commendations highlighted key strengths such as: *"The embedded practicum as an exemplary, and demonstrably effective mechanism to achieve industry engagement and the development of professional skills"* (2016 General Review) and *"… the rigorous quality assurance process for placements… the student services team and Work Integrated Learning support for students"* (2021 General Review).

The Academic Leads have been invited to share and disseminate their knowledge at leading education events, including the Australian Collaborative Education Network (ACEN) Chapter Led Conversation in September 2023 where they presented '*Meeting Accreditation requirements while navigating a unique engineering WIL Program*'. A similar webinar presentation is planned in October 2025 for the Australian Awards for University Teaching (AAUT) Teaching and Learning Breakfast Series. Further evidence of national recognition includes the Academic Leads publishing papers on the program and presenting at recent Australasian Association of Engineering Education (AAEE) conferences (Rampersad 2014; Rampersad & Zivotic-Kukolj, 2018; Zivotic-Kukolj, *et al.*, 2022; Hobbs & Vincent, 2023; Zivotic-Kukolj & Asgari 2023), excluding two additional AAEE conference papers already submitted and under review in 2025. Formal recognition in national fora (EA, ACEN, AAEE and AAUT) indicates increasing scope and scale of impact, towards IMPEL Level 6 ('*broad opportunistic adoption*' – Hinton, 2016).

The Flinders University Engineering WIL program has received several awards starting with individual College level Awards for Excellence in Teaching for the Academic Leads in 2019. In 2022 the program received a Vice-Chancellor's Award for Excellence in Teaching for '*developing authentic industry experiences through an immersive 5-month WIL Placement*'. Finally, in 2024, Flinders University was very proud to win a prestigious AAUT Program Award, which is considered the highest program award available for tertiary education in Australia. The AAUT panel commended our WIL program for *"its sustained positive impact on student learning, robust evaluation framework, and commitment to flexibility and inclusivity across STEM disciplines. Additionally, its comprehensive feedback mechanisms and sector recognition from accrediting bodies reinforce its excellence and ongoing contribution to student success"*

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Note that Hobbs, Rampersad, Vincent and Zivotic-Kukolj are shown in ***bold*** *to indicate they are current or past Flinders University WIL Academic Leads over the last decade.*