



The Secretary
Senate Education and Employment Committees
PO Box 6100
Parliament House
CANBERRA ACT 2600

National Secretariat
Sydney Institute of TAFE NSW
Turner Hall Ultimo College BG.01
731-695 Harris Street Ultimo
PO Box 707 Broadway NSW 2007
Australia

Ph: 02 9217 3180
Fax: 02 9281 7335
Web: www.tda.edu.au

22 September 2014

Dear Secretary

Re: Inquiry into the Higher Education and Research Reform Amendment Bill 2014

TAFE Directors Australia (TDA) is pleased to present our submission to the Committee's inquiry into Higher Education and Research Reform Amendment Bill 2014 (the Bill).

Over five years ago, TDA put forward a detailed case for legislative reform to expand Commonwealth Supported Places (CSP) funding to higher education students studying at technical and further education (TAFE) Institutes. We have strongly advocated that funding support be extended to students who choose to study 'work-ready' higher education qualifications at TAFE such as diplomas, advanced diplomas, associate degrees and bachelor degree programs.

During the 2013 Federal election campaign, TDA released a policy position paper which provides further detail on this position (Attachment 1).

In this submission, TDA makes three recommendations:

1. The Committee support the expansion of the demand driven system to non-university higher education providers and sub-bachelor degree programs in order to address funding inequities in the current system. This reform will have significant flow on effects for Australia's industries, workforce productivity and Australia's standing in international tertiary education markets;
2. The Committee support the establishment of a Commonwealth Scholarship Scheme based on clear principles that stipulate how scholarship monies will be distributed;
3. The Committee review the implications to students should the 10 year government bond rate be applied to their Higher Education Loan Program (HELP) debt. TDA prefers alternatives approaches such as the hybrid of indexation and a loan surcharge on HELP loans proposed by Professor Bruce Chapman and Timothy Higgins.

The recommendations, outlined in detail in the following pages, respond to the following schedules in the Bill:

Schedule 1 - The expansion and deregulation of the demand driven system;

Schedule 2 - The establishment of a Commonwealth Scholarship Scheme;

Schedule 3 - The change to the indexation rate of HELP debts.

TDA is currently undertaking a national survey of higher education students in TAFE to obtain their views on higher education reforms as well as their level of satisfaction with TAFE. Preliminary results will be available for the Senate Committee hearings.

We look forward to addressing the Senate Education and Employment Legislation Committee to further discuss these critical reforms for our sector.

Yours sincerely

Chief Executive Officer
TAFE Directors Australia

Schedule 1 – The expansion and deregulation of the demand driven system

Industry-led higher education

The implementation of the demand driven system has raised significant questions about the mismatch of graduate supply and labour market requirements. Major business and industry groups are overwhelmingly calling for ‘work ready’ higher education graduates to meet the demands for higher applied and technological skills in the workforce. The specialised and ‘work ready’ qualifications offered by TAFE are responding to this demand. Some 23 of Australia’s 58 TAFE institutes are delivering approximately 130 higher education qualifications across a range of niche industry disciplines (Attachment 2) and across a broad spread of geographical locations throughout Australia.

TAFE’s delivery is growing as students increasingly choose to pursue higher education in TAFE and other non-university higher education providers (NUHEPs). This can be attributed to TAFE’s commitment and capacity to meet industry and student demand across a broad spectrum of occupations including building and construction, hospitality and tourism, allied health and nursing and creative design and ICT industries, to mention a few. The integration of work and learning, high levels of academic and career support, smaller class sizes, innovative delivery models and strong job opportunities on graduation make TAFE higher education programs attractive to an increasingly diverse student population.

Equity and access

Extending the demand driven funding system to TAFE and other NUHEPS and to sub-bachelor qualifications will address inequities for students that exist in the current system in two ways:

1. Firstly, as many TAFE students are first in family to undertake higher education, and are often from lower SES and disadvantaged backgrounds, TAFE offers an accessible alternative to university. Domestic and international research demonstrates that the prospect of university education can be intimidating and a ‘step too far’ for many of these students. Greater choice in higher education provider, along with more equitable funding arrangements, may ease barriers to participation and will be welcomed by many students and parents as a result;
2. Secondly, the opportunity for students to remain at TAFE (or other non-university higher education providers) as they undertake higher qualifications is a key benefit of the reforms. Students who respond well to TAFE’s applied and supportive learning environments can continue to study through supported sub-bachelor pathways to bachelor and post graduate level study in TAFE or university. This is important as TAFE has a high percentage of students who progress from VET to higher education. Holmesglen¹ for example reports 60% of commencing domestic students in 2012 with prior VET qualifications. There is clear evidence² that these pathways in TAFE can reduce the attrition rates of under-prepared higher education students (see also Attachment 3 - case studies of TAFE higher education graduates). Given the fastest growth (153%) in university admissions has been at lower ATAR ranks (30 – 49), the supportive learning environments provided by TAFE also contribute to reduced student drop-out rates and the impact on public expenditure.³

¹ Holmesglen (2013). Submission to the review of the demand-driven funding system.

² Kemp, D. and Norton, A. (2014). Review of the Demand Driven Funding System, Final Report.

³ Go8 Submission to the Demand Driven Review, (2014).

Pathway programs in TAFE also play an increasingly important role in the international inbound higher education market.

CSP rate

TDA notes the Bill proposes a rate of 70% for Commonwealth Supported Places (CSP) for NUHEPs as well as for sub-bachelor and bachelor qualifications. This rate appears to be partly based on Dr Jane Lomax Smith's argument in the 'Base funding review of higher education' (2013) that CSP funding may cross-subsidise university research. While TDA may accept the 70% rate, it is our preferred position that, at the earliest opportunity, the Government separates CSP funding for teaching and learning (across all HEPs) from funding devoted to the cost of research and ARC grants.

International environment

TDA's international experience indicates that Australia is slow to support the emergence of integrated tertiary providers, such as TAFE. Australia lags in comparison with our counterparts in the United Kingdom, United States, Hong Kong, China, Indonesia, the European Union and Canada. For example:

- In China, the Ministry of Education is currently transferring 600 polytechnics into applied technology universities to address the 25% of undergraduates currently unemployed after graduation;
- In Hong Kong, the Vocational Training Council has established a dedicated Technological and Higher Education Institute (THEi) to deliver specialist vocational degrees;
- In Indonesia, several of the 34 polytechnics are now offering degrees, with government HELP-style funding support;
- In the United States, 18 of the 52 states have expanded the remit of Community Colleges to deliver Baccalaureate degrees;
- In the United Kingdom, Further Education Colleges now offer two year Foundation Degrees;
- In the European Union, Danish Academies of Higher Professional Education, Flemish Belgium Centres of Adult Education and French Technological University Institutes have been established.

The rapid development in industry-focused higher education qualifications in these institutions highlights Australia's vulnerability to international competition when universities are the only recipients of CSP funding.

It was in 2008 that the Bradley Review of higher education (2008) identified the need for greater diversity in the Australian tertiary sector. The Gillard government then intensified investment in the university sector which has increased the urgency in the need for reform. Most recently, the Commonwealth government released the draft 'Competition Policy Review' which identifies health and education as the two sectors ripe for competition.

Schedule 2: The establishment of a Commonwealth Scholarship Scheme

Scholarships linked to pathways

TDA supports the allocation of 20% of additional revenue raised by higher education providers (500 students and over) to support disadvantaged students. TDA further proposes that universities be encouraged to allocate significant portions of scholarship monies to support pathways programs in partner institutions. TDA notes that the Go8 had advocated some time ago that, given the low attainment rates in universities of under-prepared students, monies spent on low ATAR students in universities might be allocated to pathway programs provided by long term partner institutions, such as TAFE. In the context of the new higher education legislation, TDA believes that this approach could be applied to the Commonwealth Scholarship Scheme to overcome concerns about how scholarship monies might be distributed by universities.

Schedule 3 – Change to the indexation rate of Higher Education Loan Program (HELP) debts.

Bond rate concerns

TDA is also concerned about the impact of the cost of student debt if the CPI indexation of the HELP is replaced with the 10 year government bond rate. Our students are often from disadvantaged backgrounds, or they may take time from careers to raise children or may enter professions with lower income brackets after they graduate. These students will clearly be disadvantaged under this amendment in the Bill. In effect, they will pay more in real terms for higher education tuition when they repay their debt when compared with students who go on to enter high income professions. This hardship will be compounded if tuition fees rise in response to the uncapping of fees from 2016. TDA supports the alternative approaches to this provision proposed by Professor Bruce Chapman and Timothy Higgins of a hybrid of indexation and a loan surcharge on HELP loans.

Summary

If supported, the reforms proposed in the Bill will not only address the current inequitable situation that blocks Commonwealth subsidies to TAFE students, they will stimulate broader choice, innovation and diversity across the tertiary sector. This will have significant flow on effects for Australia's industries, enterprises and workforce productivity and importantly, will enhance the relevance of Australia's tertiary education in our Asia-Pacific region. The reforms will also bring greater alignment with many of our major international higher education competitors.

For further information:

Martin Riordan

Melinda Waters

Office 02 9217 3180

Position Paper

Pathways in tertiary education and funding for work-ready degrees: *Why TAFE pathways are critical for students and industry*

Objective: Increased participation by students in higher education in TAFE

Student choice to enrol in undergraduate degrees and higher education courses should be recognised and supported by Commonwealth supported funding. To date, Commonwealth funding is allocated almost exclusively to university students for undergraduate course enrolments and completions. The provision of higher education qualifications by 23 TAFE Institutes across Australia is in direct response to increasing industry demands for work-ready graduates with specialist higher education qualifications.

TAFE Directors Australia (TDA) advocates for access for non-university providers including TAFE Institutes to Commonwealth Supported Places for students, with preference for areas of skills shortages. TDA also advocates that the capability of TAFEs to deliver higher education is recognised through a specific category in the Higher Education Provider Standards. This will allow wider branding capacity for those TAFE Institutes operating in this area.

Australian school leavers and mature aged students are increasingly pursuing pathways into higher education from vocational education and training (VET) courses; a trend that supports the achievement of Council of Australian Government (COAG) targets aimed at up-skilling the Australian workforce for greater productivity and Australia's future economic success.

Research undertaken by Moodie and Fredman (2013) for the National Centre for Vocational Education Research (NCVER) highlights an increase of up to 20% in enrolments in Diplomas across industry areas such as food and hospitality, health, agriculture and environmental studies. These enrolment figures

illustrate acceleration in the number of students seeking pathways into higher education for greater employment and career opportunities. This trend follows recommendations made by the Bradley Review of Higher Education¹ (2008) for new ways to lift Australia's productivity and competitiveness and to strengthen linkages with industries operating in the Asia-Pacific region. Under Chair, Professor Denise Bradley AO, recommendations were made to create more seamless transitions for students from technical and further education to higher education. The reforms were endorsed by COAG as ways to meet Australia's future need for higher skills and qualifications.

1. Bradley, D, Noonan, P, Nugent, H, Scales, W, 2008 *Review of Australian Higher Education: Final Report*, Department of Education, Employment and Workplace Relations, Canberra

Upskilling from TAFE into Tertiary Education

In Australia

Currently, 23 TAFE Institutes are registered as Higher Education Providers (HEPs) in Australia delivering over 100 accredited higher education qualifications across a range of industry sectors. By supporting those students who may not otherwise have attended university, these institutes are enhancing the diversity of the tertiary sector through the provision of new and innovative pathways into higher education. The delivery of higher education by TAFE directly contributes to the achievement of Commonwealth targets for social inclusion in higher education; targets currently not being met by the higher education sector alone.

However, most students studying higher education in TAFE are required to pay full fees. This contrasts to universities, where the Commonwealth Supported Place (CSP) funding scheme substantially subsidises students to study 'HECS' courses in undergraduate qualifications. To counter funding inconsistencies, the Australian Workforce Productivity Agency (AWPA) has recommended that the Australian government fund higher education courses offered by VET providers (TAFE and vocational education colleges) registered as HEPs.

Pathways funding

Of the 23 TAFE Institutes offering higher education qualifications, the majority are offering 'work-ready' qualifications such as Diplomas, Advanced Diplomas and Associate Degrees that provide significant pathways into higher qualifications and are currently not funded. Yet these pathway qualifications meet increasing industry demands for work-ready graduates with specialist higher education qualifications.

Internationally

The emergence of TAFE institutes as 'integrated tertiary providers' is in line with developments in other Anglophone countries such as North America (through Community Colleges), United Kingdom (through Further Education Colleges) and, in the region, New Zealand (through Polytechnics), Indonesia, Singapore and Hong Kong. The strength of these integrated tertiary providers, also known as 'polytechnics' lies in the applied nature of the learning, the supportive learning environments, the direct links with work and industry and innovative pathways into higher skills and qualifications for a diverse range of students. Qualitative research currently being undertaken by TDA of students who have completed a higher education qualifications in TAFE in clearly demonstrates these strengths.

Our Case

TDA makes the case that TAFE Institutes registered as HEPs should be funded on the same basis as universities for higher education delivery. TDA submits that neither the funding framework nor the regulatory framework have kept pace with the evolution of TAFE institutes as integrated tertiary providers. Commonwealth funding is required to support the increasingly important role TAFE plays in broadening student choice and access, strengthening the capacity and reach of the system, particularly in regional areas, and addressing critical shortages of higher skills in the Australian economy.

Recommendations

TDA recommends that the Federal, State and Territory Governments:

1

Provide access for non-university providers including TAFE Institutes to Commonwealth Supported Places for students, with preference for areas of skills shortages;

2

Expand the demand-led funding system with funding to support pathway qualification for students from vocational education and training into higher education; and

3

Recognise the capability of TAFE to deliver higher education through a specific category in the Higher Education Provider Standards.



Higher education qualifications in TAFE

September 2014

Victoria

1. Box Hill Institute

1. Associate Degree in Applied Business in Music Industry
2. Associate Degree Applied Music
3. Associate Degree in Biotechnology
4. Associate Degree in Computer Systems (Networking)
5. Associate Degree of Commerce (Applied)
6. Associate Degree in Fashion Merchandising
7. Associate Degree in Fashion Technology
8. Associate Degree of Hospitality Management
9. Bachelor of Applied Business in Music Industry
10. Bachelor of Applied Music
11. Bachelor of Biosecurity Science
12. Bachelor of Biotechnology and Innovation
13. Bachelor of Commerce (Applied)
14. Bachelor of Community Services
15. Bachelor of Computer Systems (Networking)
16. Bachelor of Early Childhood (Education and Care)
17. Bachelor of Fashion
18. Bachelor of Fashion Merchandising
19. Bachelor of Hospitality Management
20. Bachelor of Library and Information Management
21. Bachelor of Sustainable Build Environments
22. Diploma of Computer Systems
23. Diploma of Library and Information Management
24. Graduate Diploma of Early Childhood Teaching
25. Graduate Diploma of International Music Business
26. Graduate Diploma of Network Security
27. Master of International Music Business
28. Master of Network Security

2. Chisholm Institute of TAFE

29. Bachelor of Community Mental Health, Alcohol and Other Drugs
30. Bachelor of Engineering Technology
31. Bachelor of Interactive Media Design

3. Holmesglen Institute

32. Associate Degree in Business (Executive Administration)
33. Associate Degree of Screen Production
34. Associate Degree of Business (Accounting)



35. Bachelor of Applied Science (Built Environment)
36. Bachelor of Building Surveying
37. Bachelor of Business (Accounting)
38. Bachelor of Business Administration
39. Bachelor of Business (Executive Administration)
40. Bachelor of Business (Marketing Management)
41. Bachelor of Construction Management and Economics
42. Bachelor of Early Childhood Education
43. Bachelor of Facilities Management
44. Bachelor of Fashion (Apparel Engineering and Design)
45. Bachelor of Hospitality Management
46. Bachelor of Landscape Design
47. Bachelor of Nursing
48. Bachelor of Screen Production
49. Bachelor of Sports Media
50. Masters of Professional Accounting
51. Graduate Diploma in Accounting
52. Graduate Diploma of Building Surveying
53. Graduate Diploma of Construction Management and Economics
54. Graduate Diploma of Facilities Management
55. Diploma of Commerce

4. Northern Melbourne Institute of TAFE

56. Associate Degree of Accounting
57. Associate Degree of Agriculture and Technology
58. *Associate Degree of Aquaculture and Environmental Management Teach out*
59. Associate Degree of Business
60. Associate Degree of Early Years Studies
61. Associate Degree of Engineering Technology (Civil)
62. Associate Degree of Equine Studies
63. Associate Degree of Hospitality Management
64. Associate Degree in Illustration
65. Associate Degree of Information Technology
66. Associate Degree of Music
67. Associate Degree of Music Industry
68. Associate Degree of Tertiary Studies
69. Associate Degree of Veterinary Nursing
70. *Associate Degree of Viticulture and Winemaking Teach Out*
71. Associate Degree in Writing and Publishing
72. Bachelor of Accounting
73. Bachelor of Agriculture and Technology
74. *Bachelor of Aquaculture and Environmental Management Teach out*
75. Bachelor of Business
76. Bachelor of Early Years Studies



- 77. Bachelor of Education (Early Years)
- 78. Bachelor of Engineering Technology (Civil)
- 79. Bachelor of Enterprise Learning
- 80. Bachelor of Equine Studies
- 81. Bachelor of Hospitality Management
- 82. Bachelor of Illustration
- 83. Bachelor of Information Technology
- 84. Bachelor of Music
- 85. Bachelor of Music Industry
- 86. Bachelor of the Build Environment
- 87. *Bachelor of Viticulture and Winemaking Teach out*
- 88. Bachelor of Writing and Publishing
- 89. Diploma of Tertiary Studies
- 90. Graduate Certificate of Creative Industries
- 91. Graduate Diploma in Creative Industries
- 92. Graduate Diploma of Professional and Practicing Accounting
- 93. Masters of Creative Industries
- 94. Masters of Professional and Practicing Accounting

5. William Angliss Institute of TAFE

- 95. Bachelor of Culinary Management
- 96. Bachelor of Tourism and Hospitality Management

Australian Capital Territory

6. Canberra Institute of Technology

- 97. *Bachelor of Design (Fashion Design) Teach out*
- 98. Bachelor of Forensic Science (Crime Scene Examination)
- 99. Bachelor of Games and Virtual Worlds (Programming)
- 100. *Bachelor of Photography Teach out*

West Australia

7. Polytechnic West

- 101. Associate Degree in Aviation (Aeronautics)
- 102. Associate Degree in Aviation (Operations Management)
- 103. Associate Degree in Hospitality Management
- 104. Associate Degree of Business
- 105. Associate Degree of Fashion Business
- 106. Associate Degree of Network Technology
- 107. Associate Degree of Software Development (Mobile Applications)
- 108. Diploma of Network Technology
- 109. Diploma of Programming (Applications)

Queensland

8. TAFE Queensland

- 110. Associate Degree in Civil Engineering



- 111. Diploma of Computer Aided Drafting
- 112. Bachelor of Creative Arts and Entertainment

South Australia

9. TAFE SA

- 113. Associate Degree in Electronic Engineering
- 114. *Bachelor of Dance Performance Teach out*
- 115. Bachelor of Visual Arts and Design

New South Wales

10. Technical and Further Education Commission (TAFE NSW) including

- i. South Western Institute
- ii. North Sydney Institute
- iii. Hunter Institute
- iv. Sydney Institute
- v. Western Sydney Institute
- vi. Illawarra Institute
- 116. Associate Degree of Applied Engineering (Renewable Energy Technologies)
- 117. Associate Degree of Accounting
- 118. Associate Degree of 3D Art and Animation
- 119. Associate Degree of Fashion Design
- 120. Bachelor of Applied Finance (Financial Planning)
- 121. Bachelor of Design (Interior Design)
- 122. Bachelor of Early Childhood Education and Care (Birth-5)
- 123. Bachelor of Fashion Design
- 124. Bachelor of Information Technology (Network Security)
- 125. Bachelor of 3D Art and Animation
- 126. Diploma of Accounting
- 127. Graduate Certificate in Leadership
- 128. Graduate Certificate in Leadership (VET sector)



Pathways to higher qualifications

When students choose TAFE to study higher education

TDA Case Studies:

Nursing

Hospitality

Civil Engineering

Forensic Science

Aviation Management

Control Systems Engineering

Forward



The six case studies in this publication afford inspiring stories of students who have chosen to pursue qualification pathways from vocational to higher education in public technical and further education providers (TAFE) in Australia. Each story describes a new career in the making; one that may not have evolved had the students not had the opportunity to study higher education at TAFE.

Each student's experience demonstrates the strengths of TAFE in the tertiary environment; the accessibility and applied nature of the learning, the innovative and specialist nature of the programs, the supportive learning environments, the integration of education and work, the 'work readiness' of TAFE graduates and the many collaborations TAFE has with industry that benefit communities, governments, industries and learners nationally.

The introduction of the delivery of higher education in TAFE reflects increasing industry demands for higher skills and qualifications and a steady stream of 'work-ready' graduates. TAFE is critical to meeting this demand, particularly in industries where skills are in short supply and in regions where access to higher education traditionally has been low. Currently, almost 90 higher education qualifications are being delivered at over 20 TAFE campuses across Australia in a range of industry specialisations.

TAFE Directors Australia (TDA) commissioned this research paper in 2013. The research focused on the experience of students who have completed, or are completing, higher education qualifications in TAFE. The aim is to highlight the significant value of TAFE in Australia's tertiary education sector and its role in contributing to the achievement of the Commonwealth Governments' targets for increased educational attainment in the workforce.

I invite you to share these inspiring stories of students who have undertaken innovative and rewarding journeys into higher education with our TAFE members.

Martin Riordan

Chief Executive Officer
TAFE Directors Australia

Copyright

Copyright 2013 TAFE Directors Australia

This work may be reproduced in whole or in part for study or training purposes, subject to the inclusion of an acknowledgment of the source and no commercial usage or sale. Reproduction for the purposes other than those indicated above requires the written permission of TAFE Directors Australia. Requests and enquiries concerning reproduction and copyright should be addressed to the Chief Executive Officer, TDA, PO Box 707, Broadway, NSW, 2007.

Disclaimer

The views expressed by participants herein do not necessarily represent the views of TDA.

Acknowledgements

TAFE Directors Australia would like to thank the following people for their generous support and assistance with the case studies.

Graduates and Students:

Sharon Hill
Nathan Hammer
Victor Knox
Rylin Richardson
Emma Sheehan
Ben Killeen

TAFE Representatives:

Ili Pelletier	Manager, Higher Education Support Unit – Holmesglen
Amanda Torr	Director, Higher Education – Polytechnic West
Meeuwis Boelen	Manager, Higher Education – William Angliss Institute
Paul Hicks	Head of Department, Architecture and Interior – Southbank Institute of Technology
Kym Turnbull	Head of Department, Science, Forensic and Engineering – Canberra Institute of Technology
Clive Ferguson	Higher Education Coordinator, Engineering Electrotechnology & Telecommunication – Chisholm Institute

Contents

Case study 1: Pathway to a career in nursing	4
Sharon Hill – Bachelor of Nursing, Holmesglen, VIC	4
Case study 2: Pathway to an international hospitality career	6
Victor Knox – Bachelor of Culinary Management, William Angliss, VIC	6
Case study 3: Pathway to a career in civil engineering	8
Rylin Richardson – Associate Degree in Civil Engineering, Southbank Institute of Technology, QLD	8
Case study 4: Pathway to a career in forensic science	10
Emma Sheehan – Bachelor of Forensic Science (Crime Scene Examination), Canberra Institute of Technology, ACT	10
Case study 5: Pathway to a career in aviation	12
Nathan Hammer – Associate Degree in Aviation Management, Polytechnic West and Murdoch University, WA	12
Case study 6: Pathway to a control systems engineering career	14
Ben Killeen – Bachelor of Engineering Technology (Mechatronics), Chisholm Institute, VIC	14
References	16

Background

TAFE Directors Australia (TDA) commissioned six case studies of students who have completed, or are in the process of completing, a TAFE higher education qualification.

The context is the emerging Australian tertiary environment; an environment forged by the Bradley Report (2008)¹ which calls for more seamless transitions for students from vocational education and training to higher education. Policy responses since Bradley have resulted in nine TAFE institutes becoming higher education providers (HEP) in their own right who are delivering collectively over 80 higher education qualifications across a range of industry specialisations and locations. Higher education qualifications developed and delivered by TAFE are accredited by the Tertiary Education Quality and Standards Agency (TEQSA) and, as such, are required to meet the same Australian Quality Framework specifications that apply to university qualifications. The delivery of higher education qualifications by TAFE in Australia reflects developments in the United States of America, the United Kingdom and New Zealand and other regional countries including Indonesia, Singapore and Hong Kong.

The following stories illuminate the opportunities students have to improve their education, employment and life prospects through higher education in TAFE. By servicing new and diverse cohorts of students, TAFE is enhancing the diversity of the tertiary education sector and thereby contributing to the achievement of targets set by the Commonwealth Council of Australian Governments (COAG) for increased participation in higher education from people with low SES backgrounds² and also for higher qualifications in the workforce. These targets are currently not being met by the higher education sector alone. While the expansion of TAFE into higher education is relatively new, its value in meeting the needs of new and diverse groups of students seeking affordable and flexible pathways to higher education is clearly established.

The following case studies accompany TDA's position paper, 'Public and technical further education providers in the tertiary sector: Unleashing the capability³' which outlines in detail the significance of TAFE's role in Australia's tertiary sector.

Research design

The case studies represent a range of higher education qualifications being delivered by TAFE across different industries and locations in Australia.

The selection criteria preferred students who:

- had completed their higher education study (if not, students in their second or third year). Where students have not completed their higher education qualifications, ethics approval was sought from participating institutions;
- represented each state and territory where TAFE offers higher education qualifications;
- had completed or were completing higher education qualifications in areas of skill shortage; and
- represented diversity in their respective backgrounds.

Representatives from TAFE HEPs were asked to nominate students who met the criteria to participate in the study. Permission was sought from the students to participate in an hour interview either face to face, by phone or via web based conferencing. Students were asked a series of questions based on the following research interests:

- What influenced/motivated you to undertake a higher education qualification at TAFE?
- What educational pathways did you follow in order to pursue your career aspirations?
- What was your experience studying higher education in a TAFE setting?
- How have you benefited from studying higher education at TAFE?

The interviews were recorded and transcribed and the transcripts were analysed using qualitative methods of content analysis. Desktop research was undertaken to determine information about the qualifications awarded, the delivery mode and general information about the associated professions. A draft of each case study was sent to the relevant student for confirmation and to TAFE Institutes for affirmation of information regarding course development, content and delivery. Overall, six students participated in the study:

Symbols & Legend



Nursing



Hospitality



Civil Engineering



Aviation



Forensic Science



Electrical Engineering

Student	Industry	Institute	State/Territory	Qualification
1. Sharon Hill	Health	Holmesglen	Victoria	Bachelor of Nursing
2. Victor Knox	Hospitality	William Angliss Institute	Victoria	Bachelor of Culinary Management
3. Rylin Richardson	Civil Engineering	Southbank Institute of Technology	Queensland	Associate Degree of Engineering
4. Emma Sheehan	Forensic Science	Canberra Institute of Technology	ACT	Bachelor of Forensic Science
5. Nathan Hammer	Aviation	Polytechnic West	West Australia	Associate Degree in Aviation Management
6. Ben Killeen	Control Systems Engineering	Chisholm Institute of TAFE	Victoria	Bachelor of Engineering Technology (Mechatronics)

CASE STUDY 1

Pathway to a career in nursing



Sharon Hill
Bachelor of Nursing
Holmesglen, VIC

People at work still say to me, did you do a degree at TAFE? I say to them that TAFE higher education is a great alternative to university.

Sharon Hill is completing the Graduate year of her Bachelor of Nursing while working full time as a mental health nurse in a psychiatric ward; a field of nursing she is passionate about. Sharon completed her Bachelor of Nursing at Holmesglen in 2012 and plans to specialise in depression and suicide care once she has finished. Sharon's career ambition was first to be an air steward, a hairdresser and then a child care worker but, after completing year 12, she was unsuccessful in applying to study childcare at university.

Ambivalent about what to do next, Sharon completed an Associate Diploma of Business at Chisholm Institute and worked for a number of years as a personal assistant in small businesses in the outer eastern suburbs of Melbourne. During this time, Sharon married, had a family and then ceased work altogether to be a 'full time mum'. Some years later, with pressure to re-skill and return to work and as a single mother with four children, Sharon pursued her long-held ambition to be a nurse.

The nursing profession

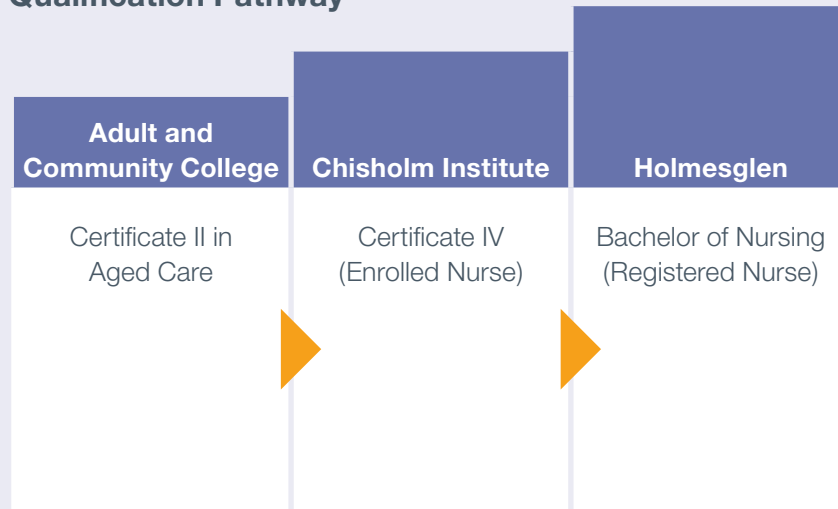
In Australia, nurses are licensed to practise by regulatory authorities established under State or Territory legislation. There are two levels of licensed nurse – a registered nurse (RN) and an enrolled nurse (EN) plus nursing assistants and other unlicensed health care assistants who support nursing work. All registered nurses (known as Division 1) complete a Bachelor degree in higher education and enrolled nurses (Division 2) complete a Certificate IV or Diploma (Enrolled Nursing) depending on which state they work in. The profession has experienced persistent national shortages, in particular of registered nurses, for over a decade, with shortages of enrolled nurses also occurring in certain sectors and positions. Current projections in the current system expect demand of registered nurses to outstrip supply by 2025⁵.

A career in the making

Sharon's nursing career commenced with a Certificate II in Aged Care at a local adult community college; a qualification she completed while working as a personal care assistant (PCA) in aged care facilities. With an award in adult learning, and new found confidence, Sharon went on to complete a Certificate IV (Enrolled Nursing) at Chisholm Institute in Berwick, studying full time and working part time as a PCA on her days off. The Certificate IV qualified Sharon to care for patients under the supervision of a registered nurse, but not to provide the 'end to end' care for patients she desired. Deciding to study a Bachelor of Nursing, Sharon applied to university and again was unsuccessful. Undeterred, she applied to Holmesglen in the first year of the Bachelor of Nursing and was accepted with full recognition of her previous qualifications and experience. Sharon went on to achieve ten high distinctions in her higher education study and developed a keen interest in mental health nursing. Once she has gained further professional experience in mental health nursing, Sharon plans to complete a Master's Degree in this field.



Qualification Pathway



Higher education at Holmesglen

Holmesglen commenced the Bachelor of Nursing in 2009 as one of the first TAFE Institutes to offer degrees in Australia. The institute now delivers over 20 higher education programs, from associate degree to post graduate level, across a range of disciplines. With an applied focus and strong industry support, students are prepared for work through a combination of theory, real life simulations and supported clinical practice in a variety of health care settings. Delivery modes include class based activity, independent learning, structured online learning and practice experience. The Bachelor of Nursing at Holmesglen gained Commonwealth Supported Places (CSP) funding in 2009, forging a pathway for TAFE into the tertiary sector. The first graduates came from a variety of backgrounds, with only four of the 29 students entering the course straight from high school. More than 30 per cent of the group were mature-age students and 20 per cent were from low socio-economic backgrounds. Graduates of this course are eligible to apply to the Nursing and Midwifery Board of Australia as a registered nurse.

A conversation with Sharon Hill

How important was the pathway from vocational education and training into higher education for you?

I don't believe I could have studied the Bachelor without the experience of the Certificate IV. The progressive path really suited me. I thought there was no way – not in a million years – could I ever be a Division 1. No one in my family has done a higher education qualification before.

What was it like studying a Bachelor degree at TAFE?

It was really practical. We would learn the theory and then do it in practice under the supervision of our teachers and mentors. Because we were a small group, our teachers could really help us. They had years of experience nursing in the wards in critical roles so the learning was real. I feel it totally prepared me for work – the work placements were essential.

What helped you most in your study at Holmesglen?

I didn't ever believe I could be a qualified nurse. It was the teachers who kept pushing me ... they understood what we were going through. They didn't just get up the front and lecture us ... they knew us all personally. I achieved ten high distinctions after just scraping through my first exam and failing my first assignment. It was fantastic and it has made a big difference to my life.

CASE STUDY 2

Pathway to an international career in hospitality



Victor Knox
Bachelor of Culinary
Management

William Angliss Institute, VIC

The academic study had a powerful effect on me ... I will always look back on the time I studied as being well worthwhile. Higher education changed my world view.

Victor Knox is a young Chef who recently completed his Bachelor of Culinary Management at William Angliss Institute in Melbourne. Being a Chef was not always Victor's ambition – the opportunity to be an apprentice Chef provided an attractive alternative to school. Finding school too boring, Victor left after Year 10 to take up an apprenticeship in a small boutique resort in Cairns, attending trade school at the local TAFE. After qualifying as a Chef and gaining experience in the kitchen, Victor decided to broaden his career options and become a Pastry Chef. His ambition now is to work his way to a management position in an international hotel, starting with a trainee position. Eventually Victor plans to establish a small hospitality business.

The culinary profession

To be a qualified Chef or Cook, students must complete a Certificate III in Hospitality (Commercial Cookery) qualification or higher generally via an apprenticeship or traineeship, and further study. The culinary profession in Australia has long experienced skill shortages with Chefs, Cooks and Pastry cooks in short supply across Australia, particularly in regional areas. The area of greatest shortage is highly experienced executive or head chefs⁶; a shortage that could be exacerbated in the future as fewer apprentices enter the system⁷.

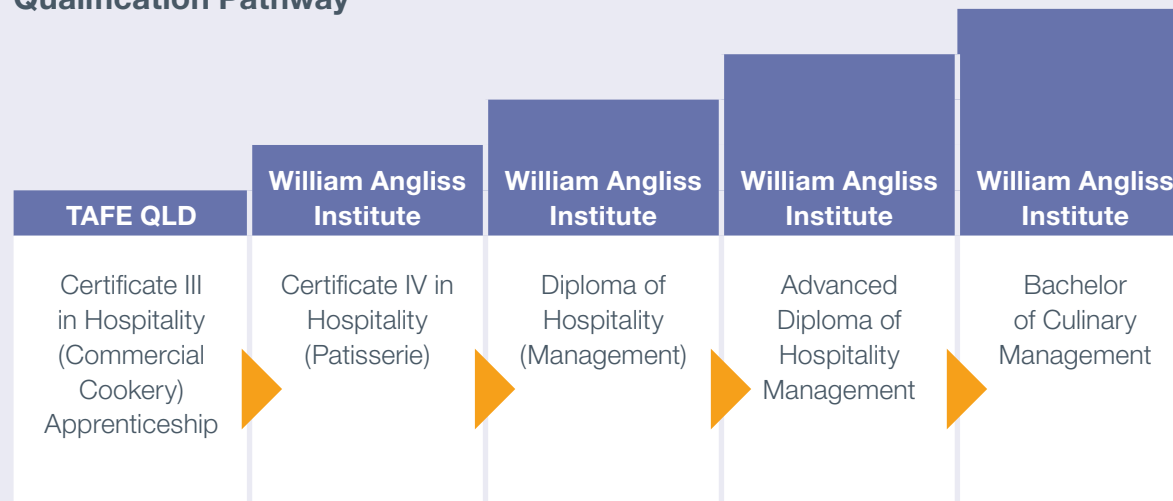
Pathway into higher education

After Victor had completed a Certificate III in Hospitality Commercial Cookery, he moved to Melbourne from North Queensland to complete a Certificate IV in Patisserie at William Angliss, working part time as a Cook while he studied. The Certificate IV provided a stepping stone into the Diploma of Hospitality which, with the credits he had for the Certificate IV, took Victor six months to complete. To his surprise, Victor enjoyed the higher study. It gave him, he says, 'even more appetite for management'. Victor continued on to complete the Advanced Diploma in Hospitality Management and, after achieving very good results, was offered a place in the Bachelor of Culinary Management. To support his study, Victor received VET Fee Help and was also fortunate to be awarded an Endeavour Award Scholarship to study a semester in Malaysia at the Berjaya University College of Hospitality in Kuala Lumpur; a William Angliss Institute higher education partner.

An important component of the Bachelor is a significant period of work placement, which Victor completed in a five star hotel in Hong Kong. This experience provided insights into all the operations of the hotel and whetted his appetite for a senior management career in international hotels. After graduating in 2012, Victor now works as a chef while he applies for trainee manager positions at resorts across Asia. Trainee positions offer attractive and lucrative career opportunities and, as a result, attract high quality graduates from a global field. To be successful in this competitive environment, a degree in a Hospitality field is mandatory.



Qualification Pathway



Higher education at William Angliss

William Angliss is an internationally renowned TAFE Institute in Melbourne that specialises in Hospitality, Tourism and the Culinary Arts. The Institute has provided higher qualifications such as Vocational Graduate Certificates for many years and introduced Bachelor programs in the tourism and culinary professions in 2007. Developed in conjunction with industry, the Bachelor is taught in a combination of lectures, seminars, tutorials, workshops, practical and laboratory sessions and excursions. In addition, students complete a twelve month internship during their study to ensure they are 'work-ready' when they graduate. Being placed in workplaces for an extended time provides invaluable opportunities for students to apply theoretical knowledge in real work situations.

A conversation with Victor Knox

What was it like studying higher education in TAFE?

Doing anything academically after an apprenticeship was far from my mind. I thought I would be working in the kitchen for the rest of my life. All my siblings have done a degree. They did well in high school – I was the black sheep. I really enjoyed TAFE, particularly the personal interaction and support from the teachers ... I wouldn't have been able to do a Diploma without the Certificate IV and would not have been able to do a Degree without the Advanced Diploma. The hardest part for me was adjusting from work to study.

What support did you need to study a Bachelor of Culinary Management?

Having not completed Grade 11 or 12, higher education was very new to me. I had never sat in a lecture or written an essay and relied on support from William Angliss and my family. Most of the teachers were managers in industry and understood my situation which was great. They really helped me and now, having read and written a lot and achieved pretty high results, I am confident about higher education. I really like proving I know what I am talking about.

How has TAFE assisted you in your career?

It has really opened up my career opportunities. Having studied finance, business planning, human resource and a range of other management subject at high levels, I have a very good grounding and the credentials for a career in Hospitality management and for my own business in the future.

CASE STUDY 3

Pathway to a career in civil engineering



Rylin Richardson
Associate Degree in
Civil Engineering
Southbank Institute of
Technology, QLD

I would not have known my career options if I had not gone to Southbank. It has been fantastic – I was really lucky.

Rylin Richardson recently completed an Associate Degree of Civil Engineering as an international student in Brisbane. Born and schooled in Durban, South Africa, Rylin attended a technical school specialising in trades such as civil, electrical and mechanical technology from Grade 10. His interest in these professions was kindled in earlier years through school subjects such as technical drawing and mechanics. During his schooling, Rylin was a champion sportsman who regularly represented his state in body boarding competitions and was far more interested in sport than education; particularly tertiary education.

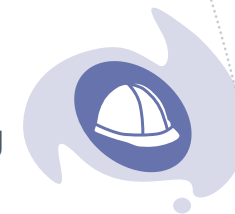
When he left school, Rylin completed a Certificate IV in Desk Top Publishing and, in partnership with a sports sponsor, started a graphic design business in South Africa before moving to Australia a few years later. Rylin commenced higher education study in Brisbane, enrolling in an Associate Degree of Civil Engineering at Southbank Institute of Technology as an international student. He completed his course as a domestic student after being awarded permanent residency.

The Civil Engineering profession

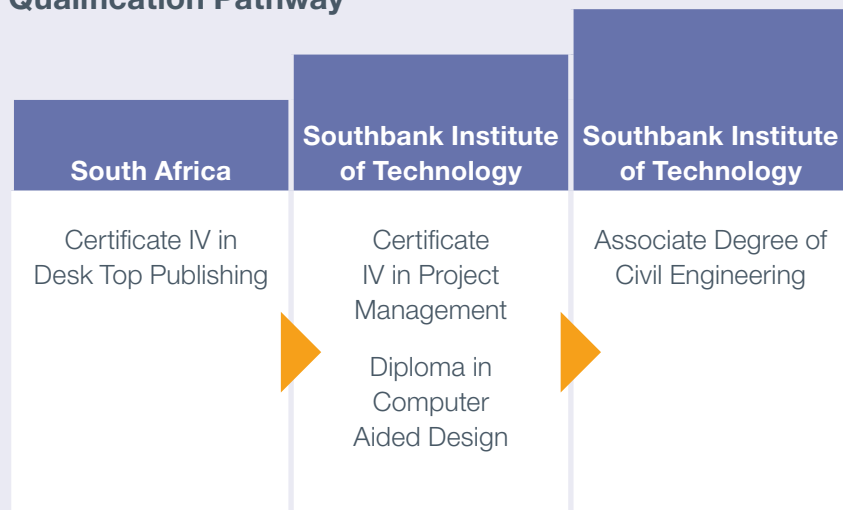
A Civil Engineer works across a broad range of engineering applications such as transport systems, bridges, plant engineering and water and waste management. Most Civil Engineers have a Bachelor or higher qualification as there are no trade equivalents and few providers offering technician level training in the field. Civil engineers, along with other professional associate and trade engineering occupations, have been in shortage for many years in Australia,⁸ with shortages expected to increase in the short term. Supply is expected to come mostly from higher education and vocational education students and, to a lesser extent, from skilled migration programs⁹. According to Skills Australia (2012)¹⁰, problematic articulation arrangements between the vocational education and higher education pathways have impacted on the supply of engineering graduates.

Pathway into higher engineering qualifications

After settling in Brisbane, Rylin obtained work as a graphic designer in an engineering company. He was encouraged by the company Director at the time to upgrade his qualifications through a cadetship. Finding university fees too expensive as an international student, Rylin enrolled in the Associate Degree of Civil Engineering at Southbank Institute of Technology. He soon discovered he enjoyed higher education and was particularly good at maths, receiving high distinctions in the subject. While studying the Associate Degree, Rylin secured a second cadetship at the Brisbane City Council, working in rotation through engineering and design teams across a range of civil engineering projects. He found the study very useful to his work, especially in the civil design section where he brought new CAD (computer aided design) and project management skills to the team. Rylin graduated in 2012 and now works as a Civil Designer at the Council.



Qualification Pathway



Rylin plans to further his experience in the profession before commencing either a Bachelor of Engineering or a higher qualification in the project management field at one of the universities with established articulation arrangements with Southbank Institute. Rylin has yet to decide which career option to pursue into the future – a civil designer, an engineer or project manager – all of which are professions currently in demand in Australia.

Higher education at Southbank Institute of Technology

Southbank Institute of Technology (SBIT), a large TAFE institute in Brisbane, offers a wide range of study choices from Certificate through to Associate Degree and Bachelor qualifications. The Institute also offers articulation programs into a number of universities with 258 pathway options available across a range of program areas. Graduates from the Associate Degree in Civil Engineering program can articulate to a Bachelor of Engineering at the University of Queensland and Queensland University of Technology (QUT).

SBIT's Associate Degree in Civil Engineering is accredited by Engineers Australia at Engineering Associate level. SBIT is one of four tertiary institutions, and the only non-university institution, with this accreditation. Through the Dublin Accord, SBIT's Associate Degree in Civil Engineering is recognised in Canada, Ireland, Korea, New Zealand, South Africa, USA and the UK, which greatly improves the global mobility of the program's graduates. SBIT graduates are in high demand by employers in Australia to fill cadetships, design technician and engineering associate roles due to the industry relevant and practical training they receive.

A conversation with Rylin Richardson

Why did you choose to study an Associate Degree of Civil Engineering at TAFE?

I looked at studying a Bachelor of Civil Engineering at university but with the fees – there was no way I could do it. The pathway TAFE provided really helped me. I was so excited when I finished my first Diploma (Computer Aided Design) – it was the first Diploma I ever achieved. It gave me the push to keep going. Even before I had finished the Associate Degree, I had the Certificate IV in Project Management and the Diploma behind me ... I could have exited at that point if I had wanted to.

What was it like studying higher education at TAFE?

I had been out of school for a few years and thought I would really battle but I'm the type of person who responds well to the type of teaching in TAFE. I really enjoy hands on, small and practical classes that challenge me. I found the lecturers very open and helpful with a large amount of industry experience – it made it much more interesting. They gave us theoretical and practical knowledge and the experience we needed – plus they gave me life skills too. My success is largely due to the learning environment and the support and encouragement I received.

How relevant was your study to your work?

I was able to apply what I learned to my work especially in the civil design section of the Council. It was a bit daunting – the Principal Engineer expected a lot of me. I was lucky I had a good grounding from the course and could bring expertise such as the latest CAD skills and good project management skills to work. I was able to show them a few new things which they really appreciated.

CASE STUDY 4

Pathway to a career in forensic science



Emma Sheehan
Bachelor of Forensic Science
(Crime Scene Examination)
Canberra Institute of
Technology, ACT

I had to complete the last 6 months of the Bachelor by distance. CIT were flexible and able to accommodate me so I could still finish in three years.

Emma Sheehan recently completed a Bachelor of Forensic Science (Crime Scene Examination) at Canberra Institute of Technology (CIT). Emma developed an interest in forensic science in her later school years even though her ambition at the time was to be an early childhood teacher. After completing school, she was accepted to study a Bachelor of Early Childhood Teaching at University but, unsure about her career choice, deferred her course for a year to study a Certificate IV in Laboratory Operations at TAFE NSW in Newcastle.

Specialising in forensic testing, the Certificate IV provided Emma with an overview of the fundamentals of forensics and confirmed her interest in crime scene investigation. After achieving high results in her studies at TAFE NSW, Emma continued to study forensic science with a specialisation in crime scene investigation, through the Advanced Diploma and then Bachelor of Forensic Science at CIT. Emma is the first in her family to undertake a degree.

A career in forensic science

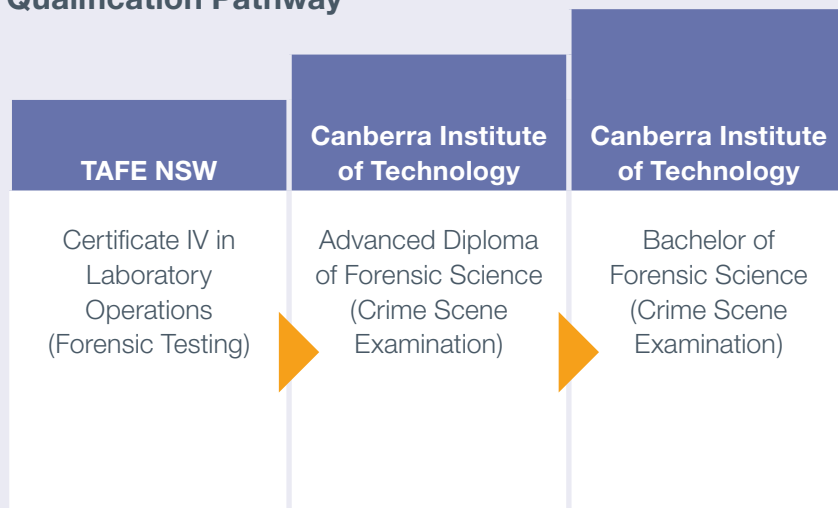
The Bachelor of Forensic Science (Crime Scene Examination) qualifies Emma to work as a forensic field scientist, a crime scene investigator or a scene of crime officer (SOCO) in the police forensics services or other related industries and scientific disciplines. Many large companies also use investigative scientists for determining sources of contamination in products or product failures. In Australia, most graduates who join a forensics area within the police force are employed as crime scene or finger print specialists but many other opportunities are available in areas such as biology criminalistics, ballistics, document examination and fire investigation. Entry into forensic science in the police force requires a degree as a minimum qualification, with graduates from CIT's Bachelor of Forensic Science (Crime Scene Examination) well regarded for forensic positions.

Pathway to a Bachelor in TAFE

After completing the Certificate IV in Laboratory Operations and investigating a range of higher education courses on offer, Emma selected the Advanced Diploma of Forensic Science (Crime Scene Examination) at Canberra Institute of Technology; the only course she could find orientated towards field based rather than lab based testing. While three universities in NSW offered a Bachelor of Forensic Science, Emma considered them to be too theoretical for her purposes, preferring instead a more practical approach to learning the skills for crime scene investigation. The Advanced Diploma provided a pathway for Emma to the Bachelor of Forensic Science (Crime Scene Examination) at CIT; a pathway funded for the first two years, which made the costs of living away from home more affordable for her. Despite having to move back to her home in NSW in her final year, Emma completed her degree within three years and now aims to specialise in forensic profiling although, as she acknowledges, this is a highly specialised area. However, having successfully completed her Bachelor, Emma is well positioned to pursue a range



Qualification Pathway



of preferred career options including positions in mortuaries, crime scene investigation, pathology, and ballistics and fingerprint analysis. After gaining professional experience, Emma intends to pursue further higher education study in forensic science.

Higher education at Canberra Institute of Technology

Canberra Institute of Technology (CIT) is recognised as a leader in the field of forensic science education. CIT has trained crime scene examiners in the Australian police force and police forensic scientists from around the world through the National Centre for Forensic Studies (NCFS). The NCFS is a partnership between CIT, the Australian Federal Police (AFP) and the University of Canberra that aims to further forensic science training, education and research through collaboration. Through the partnership, the AFP provides students at CIT with topical issues to investigate for their research projects. The Advanced Diploma of Forensic Science at CIT articulates directly to the Bachelor of Forensic Science (Crime Scene Examination). Students, who have successfully completed stages 1–4 of the program, or equivalent, can progress to the third year of the degree.

A conversation with Emma Sheehan

What was it like studying forensic science at TAFE?

CIT only accepts small numbers into forensic science courses so I was lucky to be accepted. Small classes appealed to me – I had individual tuition and attention which was really important in my final year when I missed quite a few classes. The classes had theoretical and practical elements – either in the lab or in the crime scene house or field based – which was what I wanted. After we learned the basics, we progressed to more specialised subjects such as blood spatter analysis, fire and explosive scenes, forensic anthropology (bones), and odontology (dentistry). We learned what to look for in a crime scene and the most likely spots for fingerprints. We did basic law too so we understand about search warrants and what you can and cannot touch.

How relevant was your course to the industry?

It was very relevant. The teachers and lecturers had experience working in victim identification in disasters such as the Bali bombing and the Aceh tsunami. The teachers knew what they were talking about and taught from real life experience. In our final year we had to do a research project. The AFP gave us a list of projects to work on. I investigated how contamination affects a dog's ability to pick up a human scent. It was really interesting.

How well prepared are you for your career?

Having finished the Bachelor in December 2012, I am looking for jobs in the police, in the private sector, in laboratories or in the mortuary. I have quite a few options because I did chemistry and biology and also because CIT graduates are sought after by industry. I am also interested in continuing onto a Forensic Science/Law higher qualification but I want to work for a while first.

CASE STUDY 5

Pathway to a career in aviation



Nathan Hammer
Associate Degree in
Aviation Management
Polytechnic West and
Murdoch University, WA

TAFE provided a specialisation and then a pathway I could follow ... those options just weren't there in the university sector.

Nathan Hammer recently completed an Associate Degree of Aviation (Management) at Polytechnic West in Perth. His ambition from an early age was to be a pilot but, while at school, he discovered this was not a career path he could follow. Despite this setback, Nathan pursued his interest in aviation through involvement in the flight simulator community over many years. After completing year 12, Nathan applied to university to study aviation management but was unsuccessful. He was, however, accepted into the Diploma of Airport Management at Polytechnic West which was ideal, he says, – it gave him a taste of everything from airport operations to factors influencing aircraft operations and general management.

After achieving high results in the Diploma, Nathan again wanted to progress to higher education qualifications but, despite an intensive search of universities locally and nationally, could not find a qualification that suited him. Most courses focused on subjects for pilots such as navigation and aircraft systems which, while of interest to Nathan, did not get to the 'heart' of what he wanted to do in the future; 'to run an airport'.

A career in aviation

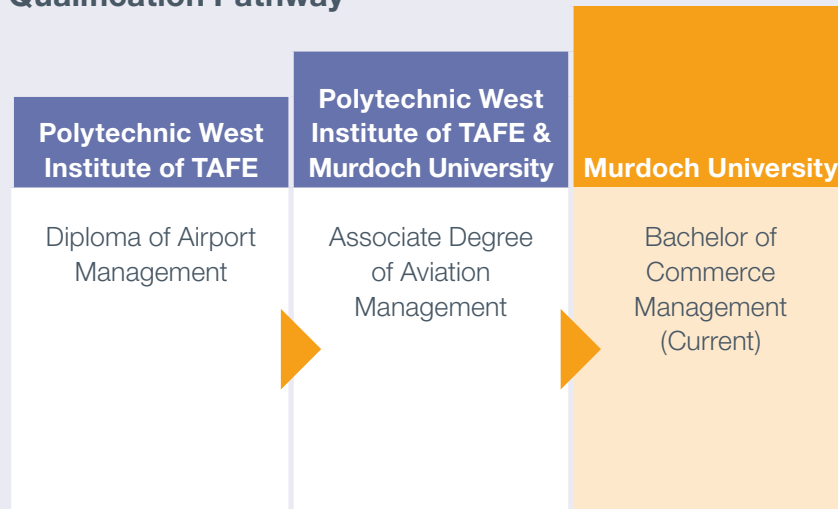
The Associate Degree in Aviation Management prepares students for a career in airport management. An airport manager oversees general operations including the maintenance of terminals and runways, the management of people traffic, airport staff and facilities and the enforcement of safety and Civil Aviation Safety Authority rules and regulations. The aviation industry in Western Australia has experienced enduring skills shortages associated with the mining boom over the past decade. Increased demand for workers in mining related industries, particularly in regional and remote areas, has resulted in significant growth in 'fly in, fly-out' workers with flow on effects for air traffic and associated infrastructure and services.

Pathway to higher qualifications

The best career option for Nathan was to articulate from the Diploma of Airport Management into the Associate Degree of Aviation (Management) at Polytechnic West; a qualification delivered through a partnership between the Institute and Murdoch University. With one year's credit awarded for the completion of the Diploma, the Associate Degree allowed Nathan to specialise in aviation (airport planning, design and management) at Polytechnic West and management expertise through Murdoch University. Much of the aviation study is based at Polytechnic West's Aerospace Training Centre at Jandakot airport; a small airport near Perth with a fully equipped Hangar, various aircraft, computer facilities and a flight simulator. As Jandakot is a training airport, students are exposed to day to day airport operations and can 'hear and see what's happening' as they learn. After finishing the Associate Degree of Aviation, Nathan transitioned into the Bachelor of Commerce Management at Murdoch University which he is due to complete in 2013. Once completed, Nathan plans to specialise with more study in the aviation profession but, in the meantime, will gain a few years 'on the ground' experience either at the local airport or, if not, in the related logistics and general management fields.



Qualification Pathway



Studying an Associate Degree at Polytechnic West

The Associate Degree of Aviation (Management) at Polytechnic West is recognised for its strong theoretical and practical foundations of airport planning, design and management. The course was designed in consultation with Australian aviation industries and aims to provide students with a 'non-flying study option' to gain the theoretical knowledge necessary to enter the air transportation industry. The course covers a wide range of perspectives to broaden students' understanding of the factors and complexities involved in establishing and operating airports. Lecturers come from a wide range of backgrounds including international pilots, airport managers, flight instructors and military & commercial aviators and managers; all of whom bring specific expertise to the program.

A conversation with Nathan Hammer

Why did you choose to study higher education at TAFE?

TAFE was the best option for me. I couldn't do what I wanted to do at university ... TAFE provided a great stepping stone into the industry. When I was at school, I didn't appreciate the role of TAFE. I come from an academic family and my friends all went to university. At first I had the feeling that I was not equal. But now I am. Both my brother and I have done a Diploma at TAFE before going to university which has worked for both of us. The other great thing is that the TAFE pathway is more affordable.

What was it like studying an Associate Degree in TAFE?

The study at TAFE was practical and theoretical. We covered administration subjects such as accounting, budgets, law, technology etc. which gave me a great background for management. Being onsite at the airport meant I was studying technical and management subjects in a real aviation context. Jandakot is a training airport so we would see and hear what was happening. ... I spoke to pilots after their flights to find out what happened and to learn from them.

How will the TAFE pathway assist your career?

Employers are really interested in us because of our course and experience. The aviation units I did at Polytechnic West gave me a big advantage – I could specialise. Plus the management degree gives me more options other than aviation if I want them. If I hadn't done the Diploma, I probably would have done security and then gone into airports – which would not have suited me nearly as well. Through TAFE I had a taste of the industry to see if I liked it ... and I did.

CASE STUDY 6

Pathway to a career in control systems engineering



Ben Killeen
Bachelor of Engineering
Technology (Mechatronics)
Chisholm Institute of TAFE, VIC

There were no other Bachelor of Engineering courses outside Melbourne that offered part time and after hours study. Chisholm's course allows me to study while still working full time ...

Ben Killeen is currently studying a Bachelor of Engineering Technology (Mechatronics) at Chisholm Institute of TAFE in Dandenong part time. Ben was a high achiever at high school excelling in maths and physics in Year 12 but, by his own admission, "*... was a bit immature and definitely not ready to go to university*". On the advice of a family friend, an electrical engineer, Ben declined an offer to study electrical engineering at university and, instead commenced an apprenticeship with BHP Steel in Hastings, Victoria. He completed a Certificate III in Electrical (Electrician) as required for his apprenticeship and, in addition, also completed a Certificate in Basic Electronics and a Certificate IV in Electrical (Motor Control) at Frankston TAFE (now Chisholm Institute).

After completing his apprenticeship, Ben worked for a further twelve years as a process electrician carrying out breakdown and scheduled maintenance at BlueScope Steel (formerly BHP Steel); a large component of which consisted of root cause analysis work aimed at improving process uptime and preventing equipment failures.

Engineering in the oil and gas industry

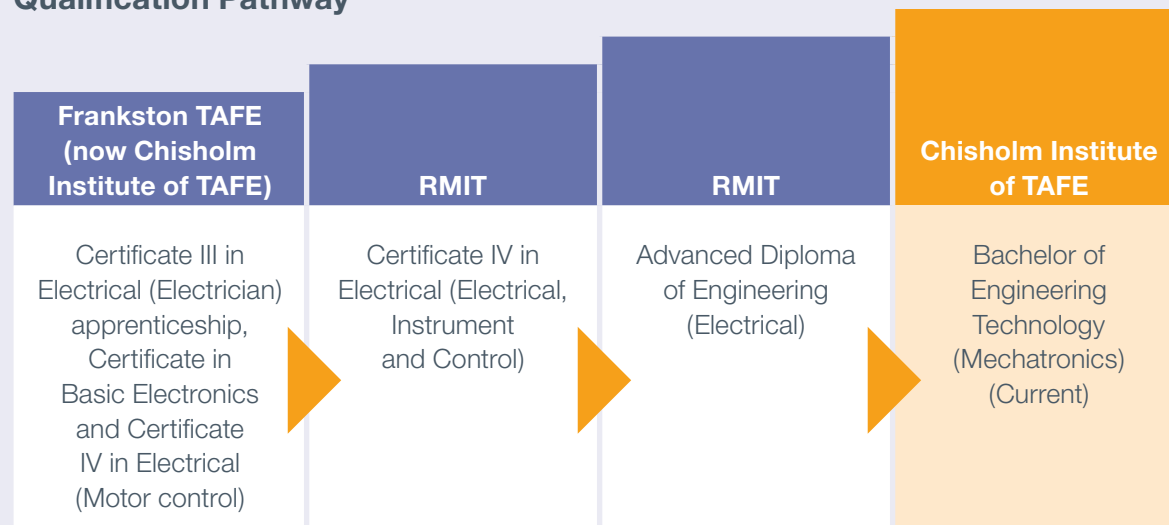
Large investments in oil and gas projects in Australia, particularly in Western Australia and Queensland, has resulted in unprecedented demand for a range of engineering related skills. As local projects compete with international companies for skilled labour, skills capability gaps have arisen at highly technical and senior levels. There is also growing demand for technical personnel in upstream oil and gas operations and maintenance, and supervisors with appropriate levels of technical and safety experience and front-line management skills. Adding to skill shortages are estimations that around 50 per cent of current employees in the sector will retire over the next 10 years¹¹.

Pathway to higher qualifications

During his employment at BHP, Ben also completed a Certificate IV in Electrical (Electrical, Instrument and Control) at RMIT which qualified him to work as a dual trade 'Electrical and Instrumentation' technician. The dual trade qualification, combining the electrical mechanic trade with the instrumentation fitter trade, has become a common minimum qualification for employment in heavy industry. Ben then completed an Advanced Diploma of Engineering (Electrical) focusing on project management and technical skills such as computer aided drafting and mathematics. Looking to expand his experience, Ben resigned from BlueScope Steel and began working in a full time casual position for a large company providing general maintenance services and field managed modifications for Esso Australia. His aim was to gain secure full time employment in the oil and gas industry. To 'open up' his career options, Ben decided to upgrade his qualifications and enrolled in the Bachelor of Engineering Technology (Mechatronics) at Chisholm Institute in Dandenong. Soon after, he was able to secure a full time position as a 'Power and Control Technician', working for Esso Australia at the Long Island Point Fractionation plant. Ben's ambition now is to complete his Degree and progress from tradesperson to engineer within Esso Australia.



Qualification Pathway



Higher education at Chisholm Institute of TAFE

The Bachelor of Engineering Technology (Mechatronics) at Chisholm Institute of TAFE was developed in association with the South East Melbourne Manufacturers Alliance (SEMMA)¹² to meet industry needs for high level technology skills. The location of this degree at Chisholm, in the south east region of Melbourne, is important given the region has around 50% of the state's manufacturing operations. As part of the degree, SEMMA provides 8 week practicums and industry based capstone projects for students to ensure the course content remains relevant and current. The course content is a blend of traditional engineering technology subjects and industry focused skills such as programmable logic controllers, industrial automation and machine condition monitoring to provide industry context. Graduates can progress to a Masters degree accredited by Engineers Australia.

A conversation with Ben Killeen

How important was the pathway from TAFE to higher education for you?

The trade pathway through TAFE really suited me. I was able to build my skill base slowly and experience real world physics in heavy metal environments rather than solely through text books. The best way for me was to build expertise through my courses and apply them to my work over the years. It is great that I can study part time and still work a full time job to support my family ... my main concern with the course is that TAFE may lose funding and cut courses like mine preventing me from completing the degree.

What is it like studying at TAFE?

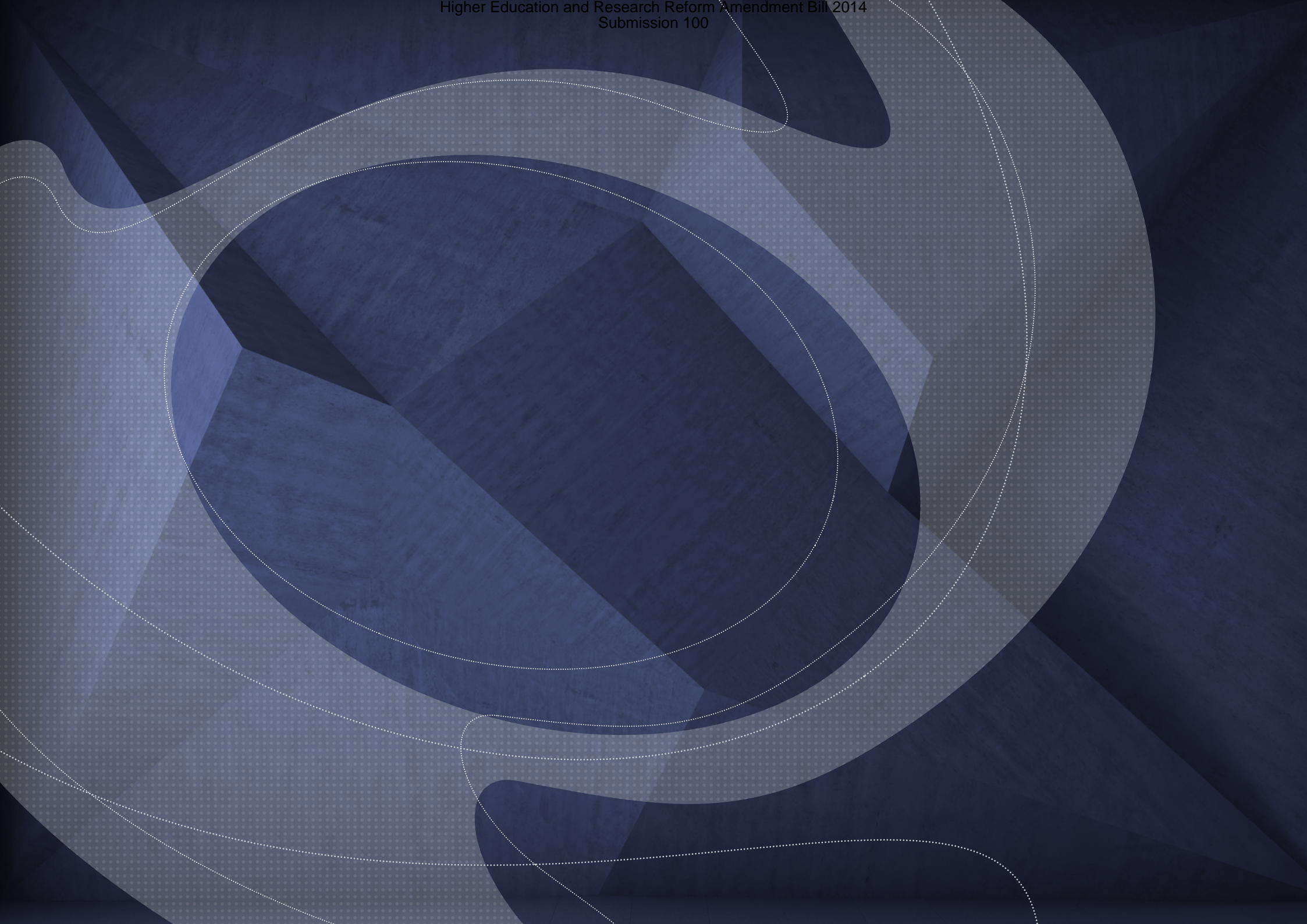
The classes are small and relaxed – we have access to one on one support. The course is based in industry and offers a 'hands on' approach to engineering while still including academic research and submission of reports to professional standards. We have close communication with the lecturers ... due to my industry experience, I am able to bring safe work practices from heavy industry into the classroom.

How relevant has your study at TAFE been to your career?

The base qualifications obtained through TAFE are compulsory components for any licensed electrical tradesperson. The qualifications or certificates obtained over and above that base allowed me to work my way into more specialised roles such as my current position within Esso Australia.

References

- 1 Bradley, D, Noonan, P, Nugent, H, Scales, W. (2008). *Review of Australian Higher Education: Final Report*, Department of Education, Employment and Workplace Relations, Canberra
- 2 Australian Government (2009). Transforming Australia's higher education system, pg.13 <http://www.innovation.gov.au/HigherEducation/Documents/TransformingAusHigherED.pdf>
Access date: 10 March 2013
- 3 Simmons (2013). Public and technical further education providers in the tertiary sector: Unleashing the capability. Unpublished.
- 4 DEEWR (2011–12). Labour market research.
http://foi.deewr.gov.au/system/files/doc/other/nursesclusterreport2011_12.pdf Access date: 15/04/13
- 5 Health Workforce Australia (2012). Health Workforce 2025. Doctors, Nurses and Midwives, Volume 1. Health Workforce Australia, Adelaide SA.
- 6 ANZCO Chef/Cook <http://foi.deewr.gov.au/node/31624> Access date: 15/04/13
- 7 NCVET (2013). Apprentices and Trainees. Early trends estimates, March quarter. Derived from the National Apprentice and Trainee Collection no.75, March 2013.
- 8 Skills Australia (2012). Skills Australia submission to the Senate Education, Employment and Workplace Relations Committees, pg. 13.
- 9 Skill shortage list Australia (2012). Department of Education, Employment and Workplace Relations, Australian Government. (Reflects research undertaken to 31 December 2012 (Published 27 February 2013), pps. 1 – 2.
- 10 Skills Australia (2012). Skills Australia submission to the Senate Education, Employment and Workplace Relations Committees, pg. 13.
- 11 The South East Melbourne Manufacturers Alliance (SEMMA) is an association of over 200 manufacturing companies in Victoria.
- 12 DEEWR (2011–12). Labour market research.
http://foi.deewr.gov.au/system/files/doc/other/nursesclusterreport2011_12.pdf Access date: 15/04/13



TAFE Directors Australia Inc.

ABN: 39 070 265 734

TAFE Directors Australia National Secretariat

Sydney Institute of TAFE NSW
Turner Hall (Building B)
Ultimo College
Cnr Mary Ann and Harris Streets
Ultimo NSW 2007

Postal Address

PO Box 707
Broadway NSW 2007

Contact

Telephone: +61 2 9217 3180
Facsimile: +61 2 9281 7335
Email: memberservices@tda.edu.au
Website: www.tda.edu.au

ISSN 1838-0727 (Print)
ISSN 1838-0735 (Online)