

PROFESSIONAL, SCIENTIFIC & TECHNICAL SERVICES



Foreword



The Commission is pleased to present this report on South Australia's Industry Priority Qualifications (IPQs). This unique report details the extensive industry collaboration and consultation process undertaken by the Commission over the last 12 months, culminating in the identification of industry's priorities across the State economy and within 18 industry sectors; the first time this has been achieved. The level of engagement with industry stakeholders exceeded the Commission's expectations, and we acknowledge the hundreds of contributions made by industry. The scope and depth of the results achieved through this collaborative approach means this work will remain important and relevant for years to come.

These Priority Qualifications Lists are a direct reflection of industry feedback and will play an important role as one of a range of inputs used by Government to determine which Vocational Education and Training qualifications will receive publicly funded support.

South Australia needs a workforce that is innovative and adaptable but most importantly, in possession of the skills required to meet the ever-changing needs of industry and the South Australian economy. This report is a valuable tool to assist in meeting this challenge.

The detailed findings contained in this report are valuable across several domains; valuable to Government in guiding public investment in skills development, and valuable to industry to better understand and compare qualification priorities across sectors. These findings are also valuable to the Commission as they provide a platform for further exploration and policy deliberations which in turn will inform future recommendations to Government as part of our State Workforce Development Plan Skills for Future Jobs 2020 to be released at the end of 2016.

While it is acknowledged that the priorities of Government and public investment may differ from those of industry, we are encouraged by the fact that this is the first time Government will have a comprehensive understanding, informed directly by industry, of the needs of industry within the context of qualification and skills priorities.

On behalf of the Commission, we extend a sincere thank you to all contributors and respondents who participated in our consultations. It is clear that the challenges facing skills development for industry are significant, but so is the appetite from Government, industry and the community to actively pursue mutually beneficial solutions.



Anthony Kittel
CHAIR



Melinda OLeary
DEPUTY CHAIR

Our Members



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Chief Executive Officer, REDARC Electronics



Ms Melinda OLeary (Deputy Chair)
Nova Systems



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Managing Director, Rheinmetall Defence



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The Training and Skills Commission

The Commission, established in 2003 and later reformed in 2008, is comprised of industry, academic and community leaders with responsibility for advising the Minister for Higher Education and Skills on skills and workforce development priorities for South Australia and regulation of our Apprenticeship and Traineeship system.

The Commission also provides independent, strategic advice on how South Australia can invest in a sustainable, highly skilled workforce particularly in key growth sectors. This advice is crucial to meeting South Australia's economic and social needs, now and into the future.

Our Responsibilities

The Commission's responsibilities include:

- promoting and encouraging investment, equity and participation in, and access to vocational education and training (VET);
- monitoring, reporting and making recommendations to the Minister on the state of VET and workforce development in South Australia, including the expenditure of public money in these areas; and
- promoting pathways between the secondary school, VET, adult community education, and higher education sectors.

Executive Summary

This report represents the significant findings of the Commission's Industry Priority Qualifications Survey. With 1,138 Qualifications, Skill Sets and Accredited Courses (QSCs) identified by industry as a priority, this report provides a unique opportunity for the State Government to strategically align its investment in skills development with the qualification priorities of industry.

The 'Whole of Economy' List of Priority Qualifications was informed by 850 responses to an industry designed survey, 20 half-day consultation sessions, discussion with peak employer and employee bodies and now a final revision after being available for feedback since the launch of the Interim Report on 8 December 2015. This document represents over 800 hours of consultation activity, and is arguably the most comprehensive exploration of industry demand conducted in any jurisdiction across Australia.

Across the breadth of our State's economy there are 106 QSCs identified as Highest Priority (Tier 1), 169 identified as a High Priority (Tier 2), 225 identified as a Priority (Tier 3), 639 identified as a Low Priority (Tier 4) and 2,961 were not selected (Tier 5).

As diverse as enterprises are within our State, the results of the Commission's stakeholder consultations indicate the wide application of generic and transferable qualifications across most industry sectors. Of the 106 qualifications identified as a Tier 1 priority, approximately 50 percent are highly transferable and non-industry specific. Leadership and management, general business related qualifications as well as work, health and safety qualifications were routinely identified as a high priority across most industry sectors.

These results are complemented by qualitative insights gathered from extensive conversations with our industry Partners, which in turn has enabled the identification of key trends and workforce development challenges in South Australia.

These include:

- The increasing complexity of the Vocational Education and Training (VET) sector is proving difficult to understand and navigate;

- Formal training is not always the answer to the workforce development needs of industry;
- Enterprises highly value skills that increase the internal mobility and capabilities of employees;
- The Australian Qualifications Framework (AQF) and Training Packages are inconsistent and often misunderstood by many engaged in the VET system;
- Continual changes to the level of public subsidy for VET qualifications at both a State and Commonwealth level diminishes business planning capability;
- The capacity of industry to invest in skills development varies widely between sectors and sub-sectors, as well as between small and large employers;
- As diverse and unique as our State's economy is in the national context, so too are the unique needs of our regions when compared to the broader South Australian economy; and
- High growth employers have demonstrated differing needs than those employers experiencing subdued conditions.

Throughout the process of consultation the Commission has remained committed to its principles of transparency with its approach and methodology.

The final consultation phase and work of the Commission has reaffirmed the strength of this engagement, with some (though not extensive) changes in priorities that reflect additional stakeholder feedback and analysis.

The Commission is confident that the 'Whole of Economy' Priority Qualifications List now represents the best platform South Australia has ever had to guide Government investment in VET towards industry need. These qualifications have been self-identified by industry and have been considered in the context of the wider economy. Discussions with our industry Partners and stakeholders were extensive to the point of being able to consider individual qualifications and their place in our diverse VET sector.

It is not always the case that VET qualifications are undertaken for the purposes of employment or improving business productivity. It is therefore important to understand the role that VET plays in our society in the broader context. The Commission has long provided support and analysis on the importance of the VET sector in social inclusion, and recognises the integral part that Adult Community Education (ACE) plays in providing pathways that encourage participation in work and community.

In this report, the Commission has provided suggestions on how the South Australian Government should treat the findings as well as identifying opportunities for future policy work.

That said, this report is a platform for industry as much as a blueprint for Government; one which provides better information on market demand and activity, as well as providing a tool to promote closer alignment of Government support to industry need.

As perhaps the only report of its kind – industry, government, training providers, employers and various other stakeholders now have yet another piece of the strategic puzzle, one which can respond to the question of ‘what training and skills should the Government support’?

This report, although not the complete answer, is a significant step forward and one that will provide insight into the skills needs of industry well into the future.

This report should be read in conjunction with the full Report on South Australia's Industry Priority Qualifications available at: www.tasc.sa.gov.au



Respondents

850 respondents completed the IPQ Survey representing employers, individuals, unions, registered training organisations and industry groups.



Employer Size

58% of employers surveyed identified as **micro or small businesses** with less than 20 employees.



Qualifications

Over 1,100 Qualifications, Skills Sets and Accredited Courses (QSCs) were identified by industry as a priority. This is just over 25% of all available QSCs (4,103) embedded within the IPQ Survey.



Priorities

106 qualifications were identified as a **top priority** for industry over the next five years, while 169 were identified as a high priority and 225 identified as a priority. The remaining 639 were identified as lower priority.



Top Qualifications

Generic (business-related) qualifications were consistently identified as high priorities for industry and the SA economy. These qualifications were often considered applicable to multiple occupations and transferable across industry sectors.



Skills Clusters

Managerial and Leadership, Sales and Customer Service and Information and Technology skills were ranked most highly across industry sectors by survey respondents as the skills required in the next five years.



Key Challenges

Reskilling will be a priority to meet the skills and workforce needs of the future as structural change presents ongoing challenges for the South Australian economy.



Projected Employment Growth

TaSC Interim Modelling projects employment growth of **1.1 % per annum (43,000 new jobs)** over the next five-year period.



Regional Needs

The **Industry Priority Qualifications of State Government Regions** are very diverse and need to be better understood.



High Growth & Small Employer Needs

Both High Growth and Small Employers have ranked **Marketing & Customer Engagement qualifications** as high priority.

Key Insights



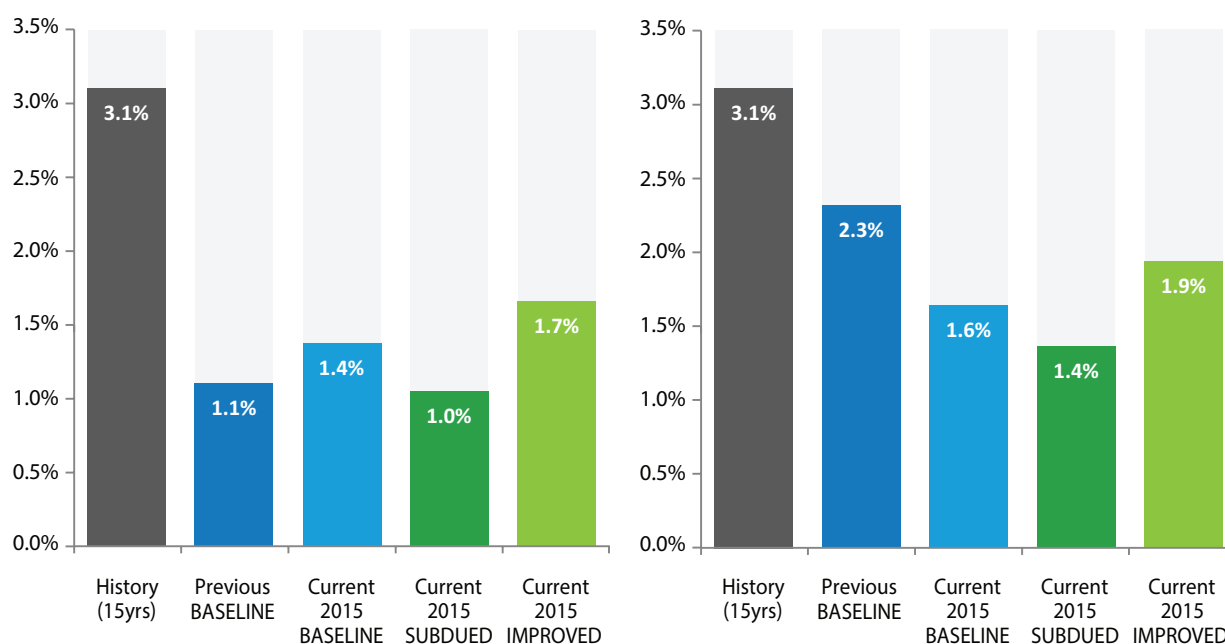
Professional, Scientific and Technical Services

Employment Outlook

According to the Commission's interim modelling, employment in the Professional, Scientific and Technical Services industry is projected to increase 1.4 percent a year over the next five (5) years under the baseline scenario. This compares with a rate of growth over the past 15 years of 3.1 percent per annum.

Over the long-term (2014-15 to 2024-25), the industry is expected to record continued employment growth above the State average. As a result, its share of the State's employment is projected to rise from 6.5 percent to 6.9 percent.

Figure 1 - Professional, Scientific & Technical Services, Average Annual Employment Change 2014-15 to 2019-20 and 2014-15 to 2024-25



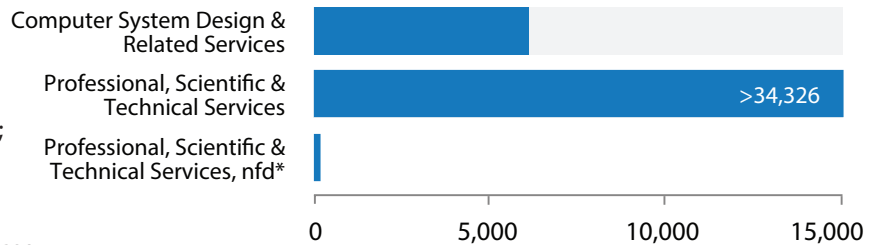
Source: Interim TaSC Economic Modelling, 2015

Industry Outlook

The Professional, Scientific and Technical Services Industry is comprised of nine sectors, including:

- Scientific Research Services;
- Architectural, Engineering and Technical Services;
- Legal and Accounting Services;
- Advertising Services;
- Market Research and Statistical Services;
- Management and Related Consulting Services;
- Veterinary Services;
- Other Professional, Scientific and Technical Services; and
- Computer System Design and Related Services.

Figure 2 - Professional, Scientific & Technical Services, Employment by Sub-Sector



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011

The largest of these sectors is the Legal and Accounting Services sector followed by Architectural, Engineering and Technical Services, Computer System Design and Related Services, and Management and Related Consulting Services. The outsourcing of these services has enabled enterprises to lower the cost of ancillary services and better focus on their core activities.

Employment growth has been highest in Western Australia, Victoria and New South Wales, while in South Australia there has been a small retraction in employment. Employment growth predictions vary across the sectors but robust employment growth is projected for Computer Systems Design and related sectors and Legal and Accounting Services¹.

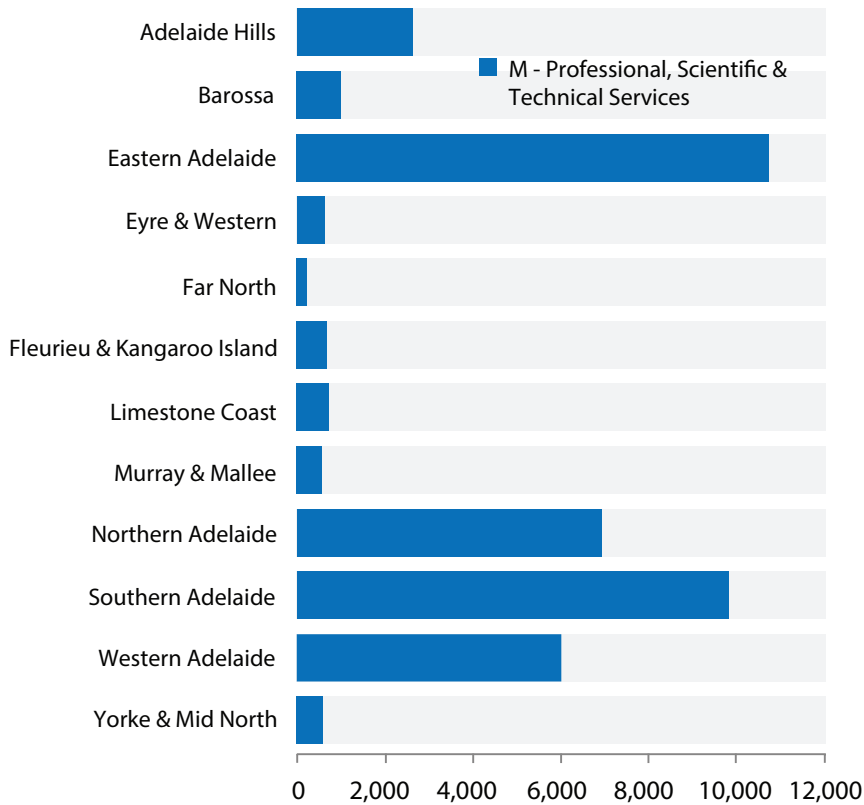
Service providers are responding to trends by forging business partnerships, specialising in niche areas, employing more professionals, distributing decision making more widely, getting closer to customers through data and harnessing the contingent workforce. The Industry in most sectors is largely made up of small businesses employing less than 20 people and many sole proprietors or partnerships. Larger enterprises are purchasing medium size firms resulting in a two -tier industry, comprising a small number of very large, and many very small businesses².

The major challenge faced by the Professional, Scientific and Technical Services Industry is the reduction in Government funding. The current subdued general business outlook coupled with many projects being cancelled or put on hold is reducing demand in some sectors of the Industry.

¹ - Australian Government, 2014, Industry Outlook Professional, Scientific and Technical Services Department of Employment.

² - <https://www.ibsa.org.au/sites/default/files/media/SApercent20Environmentpercent20Scanpercent202015percent20Businesspercent20Servicespercent20Industry.pdf>

Figure 3 - Professional, Scientific & Technical Services, Employment by Region



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011

Skills needs

Survey respondents ranked the Managerial and Leadership skills cluster as having the highest importance, followed by the Sales and Customer Service and then the Information and Technology skills clusters.

Language, Literacy and Numeracy (LLN) and Sustainability and Environmental skills clusters were ranked of lowest importance by the Professional, Scientific and Technical Services Survey respondents.

Table 1 - Professional, Scientific & Technical Services, Ranked Skills Clusters

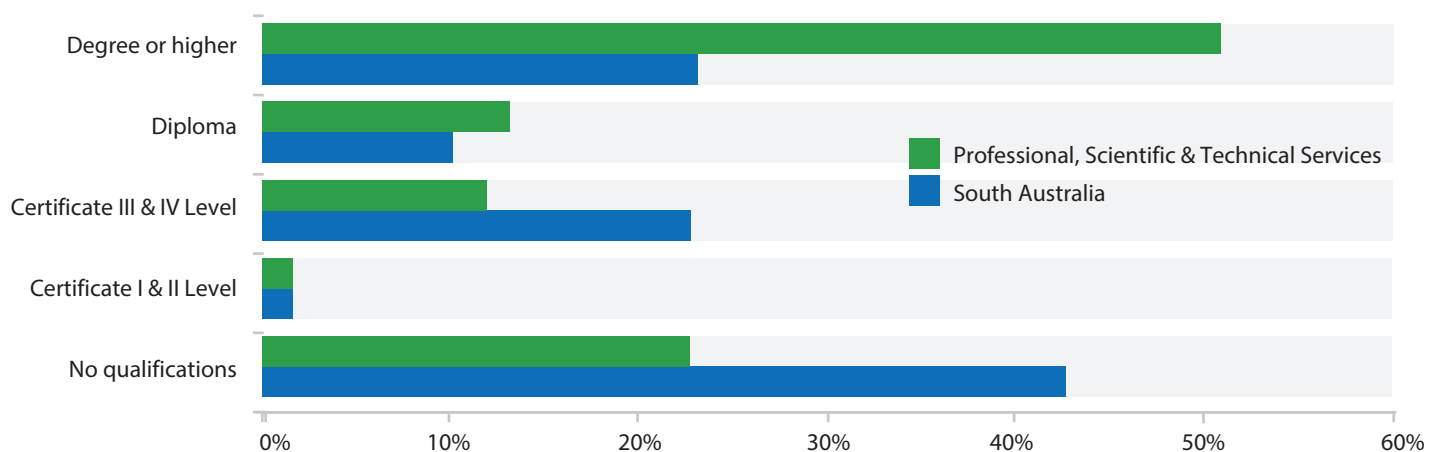
Skills Clusters	This Industry	All Respondents	Compare
Managerial & Leadership	1	1	↔
Sales & Customer Service	2	2	↔
Information & Technology	3	3	↔
Administration & Support	4	5	↑
Entrepreneurial	5	11	↑
Marketing & Engagement	6	7	↑
Human Resources	7	8	↑
Financial	8	6	↓
Work Health & Safety (WHS)	9	4	↓
Sustainability & Environmental	10	9	↓
Language, Literacy & Numeracy (LLN)	11	10	↓

Workforce development themes and issues

Professionals are expected to benefit from an increased share of state employment over the next five (5) years³. In addition, jobs in Professional, Scientific and Technical Services are generally much less susceptible to automation as they require higher levels of creative and social intelligence⁴.

More and more jobs are being created at the professional level with businesses increasingly wanting to employ workers with higher level VET and Degree qualifications, reflecting a deepening of skills and knowledge required to perform functions that are unable to be automated. This suggests that higher level qualifications and training will be required in the future and investing in articulation arrangements with higher education providers could provide benefits to all stakeholders as it creates pathways for disadvantaged cohorts.

Figure 4 - Professional, Scientific & Technical Services, Employment Share by Post-School Qualification Level



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011

3 - <https://www.ibsa.org.au/sites/default/files/media/IBSApercent20Environmentpercent20Scanpercent202015percent20Businesspercent20Servicespercent20Industry.pdf>

4 - Department of Industry and Science Research Paper, 2015, A rising tide: automation within Australia's labour market, Australian Government

Many roles in this industry require or will require computational thinking skills to make sense of volumes of information. As the language of analytics permeates organisations, and Big Data moves from the realm of data scientists to everyday business transactions, non-technical staff will be required to organise and interpret data and simulate scenarios for planning and decision making.

Recruiters that currently value applicants who are familiar with basic applications, such as the Microsoft Office suite, will shift their expectations to candidates with statistical analysis and quantitative reasoning skills⁵.

In this context, Mathematics, Statistics and Information Technology skills are increasingly important. People will need these supporting core skills that are essential dimensions of computational thinking, including:

- confidence in dealing with complexity
- persistence in working with difficult problems
- tolerance for ambiguity
- the ability to deal with open ended problems; and
- the ability to communicate and work with others to achieve a common goal or solution⁶.

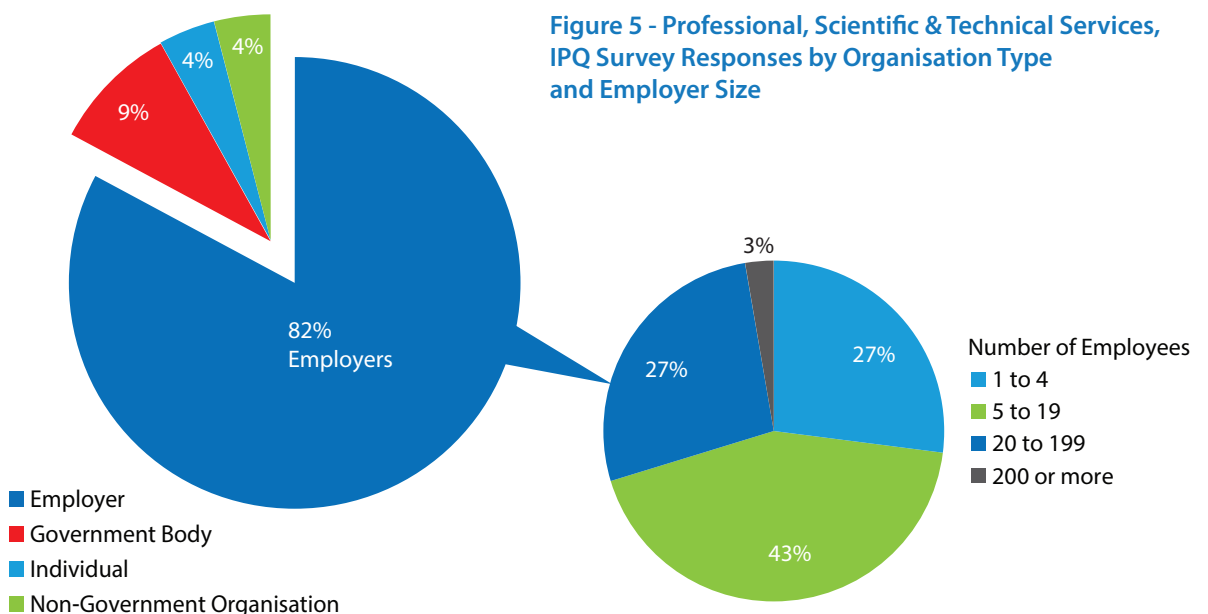


5 - <https://www.ibsa.org.au/sites/default/files/media/IBSApercent20Environmentpercent20Scanpercent202015percent20Businesspercent20Servicespercent20Industry.pdf>

6 - <https://www.ibsa.org.au/sites/default/files/media/IBSApercent20Environmentpercent20Scanpercent202015percent20Businesspercent20Servicespercent20Industry.pdf>

Industry Priority Qualifications

The Professional, Scientific and Technical Services Industry received a total of 45 responses to the Survey. The number of responses was commensurate with the employment share for this Industry and the sub-sector distribution shows good representation for each sub-sector. Respondents in this Industry primarily identified as employers.



Over two-thirds of employers in this industry were small or medium businesses. Few employers identified as large businesses. Half of the employers expected employment growth in the short-term.

Stakeholders had some difficulty interpreting the results of the Survey, given the very diverse nature of the key sector occupations. In general, Engineering qualifications performed very well in the raw data, but several key occupations had very few qualifications. A number of moderations were required to ensure critical qualifications were represented in the appropriate Tiers.

Table 30 - Professional, Scientific & Technical Services, Prioritised Qualifications

Professional, Scientific & Technical Services

Tier 1 (Highest Priority)	Tier 3 (Priority)
<p>Certificate IV in Information Technology Networking Certificate IV in Leadership and Management Certificate IV in Small Business Management Certificate III in Engineering - Mechanical Trade Certificate III in Information, Digital Media and Technology Certificate II in Engineering - Production Technology</p>	<p>Advanced Diploma of Marketing Diploma of Building Design Diploma of Business Diploma of Engineering - Advanced Trade Diploma of Engineering Drafting (Accredited Course) Diploma of Graphic Design Diploma of Human Resources Management Diploma of Information Technology Systems Administration Diploma of Project Management Diploma of Veterinary Nursing (Emergency and Critical Care) Diploma of Work Health and Safety Certificate IV in Advertising Certificate IV in Business Sales Certificate IV in Companion Animal Services Certificate IV in Human Resources Certificate IV in Legal Services Certificate IV in Marketing Certificate IV in Project Management Practice Certificate III in Business Administration Certificate III in Customer Engagement Certificate III in Engineering - Production Systems Certificate III in Engineering - Technical Certificate III in Surveying and Spatial Information Services Certificate II in Emergency Medical Service First Response Certificate II in Information, Digital Media and Technology</p>
Tier 2 (High Priority)	
<p>Advanced Diploma of Engineering Advanced Diploma of Business Advanced Diploma of Leadership & Management Diploma of Business Administration Diploma of Leadership and Management Diploma of Marketing Certificate IV in Computer Systems Technology Certificate IV in Engineering Certificate IV in Information Technology Certificate IV in Information Technology Support Certificate IV in Veterinary Nursing Certificate IV in Work Health and Safety Certificate III in Work Health and Safety Certificate II in Engineering Certificate I in Engineering</p>	

A full list of **Tier 4** (Low Priority) Industry Prioritised Qualifications are available in the IPQ Dataset
www.tasc.sa.gov.au



Government of South Australia
Training and Skills Commission

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Disclaimer: The material contained in this report has been developed by the Training and Skills Commission and was informed through a detailed survey of industry and consultations with key industry partners and groups. The information contained in this report does not necessarily reflect the views of the Government of South Australia or the Department of State Development, or indicate any commitment to a particular course of action.

The information contained in the report is provided in good faith and all reasonable care has been taken in its preparation. The Training and Skills Commission recommends users exercise care in interpreting this report and carefully evaluate the relevance of the material for their purpose and where necessary obtain appropriate advice specific to their particular circumstances.

A full copy of the Report on South Australia's Industry Priority Qualifications can be accessed electronically at:
www.tasc.sa.gov.au

Images have been supplied by the Department of State Development and the South Australian Tourism Commission.

Acknowledgements: The Training and Skills Commission expresses its sincere gratitude to its key Industry Partners and industry stakeholders who responded to the IPQ survey and have provided detailed information to inform this report. The Commission also acknowledges the contributions of Joshua Rayner, Angela Niedorfer, Heidi Greaves, Joel Pillar and Kimberley Hoey in producing this report.

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