

AUSTRALIAN ENGINEERING EDUCATION
STUDENT, GRADUATE AND STAFF DATA AND TRENDS
JANUARY 2018

INTRODUCTION

This report and appended data tables are an authoritative resource on the size and performance of engineering in the Australian higher education (HE) system. The aggregated national data cover HE programs at Levels 5 to 10 of the Australian Qualifications Framework (AQF). The relationships between the award levels and external program accreditation by Engineers Australia are summarised.

Most of the data are for the defined field of education, 'Engineering and Related Technologies'¹. Within this field (FoE 03) the higher education programs in 'Engineering' are aligned to the needs and interests of the engineering profession. The principal 'Related Technologies' with higher education qualifications are aviation and spatial sciences. These make up a small proportion of the FoE 03 aggregates. The text includes references to the 'non-engineering' areas where applicable.

The report includes data for the 2016 academic (calendar) year, and provides trends in the aggregates of enrolments, graduations and staffing for up to the last decade. Summary Indigenous student enrolments and completions for all award levels are provided. For Bachelors degrees (including Bachelor Honours degrees), information is provided on student admissions, progression and graduation (completion) rates.

The data presented are sourced from the Australian Government Department of Education and Training (DET) national collections. Student enrolments and related data are supplied to DET by Australia's public universities and other HE providers (VET private providers and TAFE institutes), and are validated by DET before publication. While providers comply with the DET submission requirements, they do not report some datasets completely consistently with each other. Inconsistencies that affect impact interpretation are noted in the text.

Information is also provided from recent national reports on graduate outcomes, for undergraduate and postgraduate degrees, in terms of employment rates, salaries and satisfaction rates, and employer satisfaction. These data are sourced from surveys sponsored by DET. The report provides some comparisons of the national means or median ratings for engineering with other disciplines.

The Australian engineering higher education system is diverse: it includes large and small metropolitan and regional universities, and a small number of private providers. This diversity is reported by including a summary of enrolments, graduations and staffing for each of the 36 ACED members that provide almost all of the nationally accredited programs for entry to professional engineering.

¹ The Australian Standard Classification of Education (ASCED) defines 11 Fields of Education, plus 'Mixed-Field' programs. Engineering and Related Technologies is FoE 03.
See <http://www.abs.gov.au/ausstats/abs@.nsf/0/53B75DFA4C63C20ACA256AAF001FCA6F?opendocument>

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1. GRADUATIONS

1.1 Graduations by award level

The total numbers of graduates by award level over 2006-16 are provided in Table 1 of the Appendix. Figure 1 presents a summary showing the growth of graduation numbers since 2006 in the four broad qualification levels: research, postgraduate coursework, bachelors and other undergraduate awards (Associate Degrees, Advanced Diplomas and Diplomas).

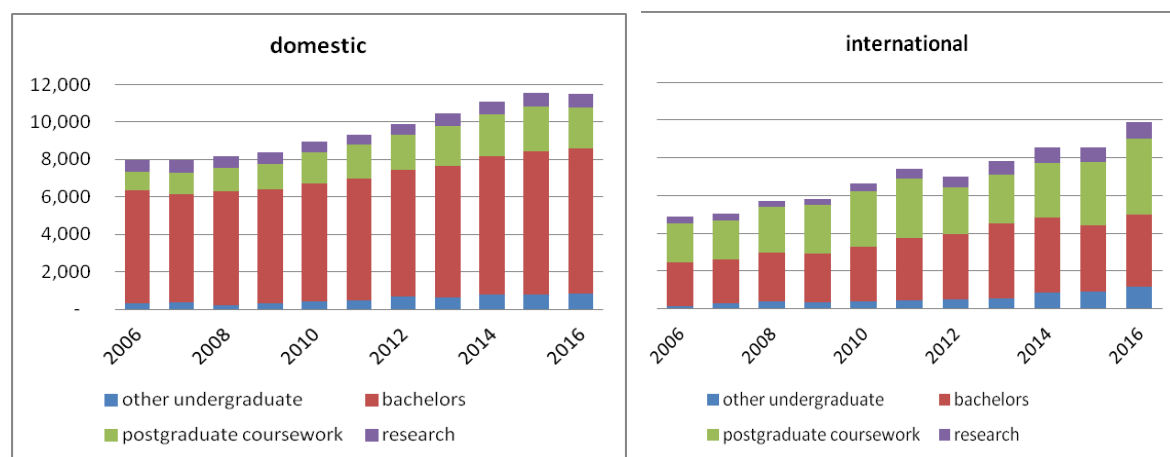


Figure 1 Domestic and international student graduations, 2006-16

1.2 Award levels – external accreditation and professional advancement

Australian education providers must ensure that the programs they offer align with the appropriate level specifications and descriptors of Australian Qualifications Framework (AQF). Engineering education providers also align their programs to the needs of the profession.

Engineers Australia (EA) accredits programs aimed at delivery of the qualifications for entry to supervised practice in three occupations: professional engineers, engineering technologists and engineering associates (or senior technicians), as listed in the following Table. EA specifies the accreditation standards as ‘competencies’ for each occupation. These standards are benchmarked against those of the educational accords of the International Engineering Alliance IEA². Graduates of EA accredited programs are deemed to have met the required standards for graduate membership of the corresponding category within EA, and are recognised as having equivalent qualifications to those of the other signatories of the relevant accord.

Occupation and EA membership category	Award (full-time equivalent academic years of study, post-secondary school)	AQF Level	International Accord
Professional Engineer	Master (coursework) (5 years) Bachelor Honours (4 years)	9 8	Washington
Engineering Technologist	Bachelor (3 years)	7	Sydney
Engineering Associate	Associate Degree (2 years) Advanced Diploma (2 years)	6	Dublin

The aggregated qualification completion and other student data that are presented against award levels cut across the occupational levels and qualification purposes in two areas:

² The IEA is a self-governed international organisation of professional engineering bodies that each has their nation’s responsibility for accreditation of engineering qualifications and standards of engineering practice. At the time of writing, the Washington Accord has 19 full signatories. The Sydney and Dublin Accords have 10 and 8 signatories, respectively. See <http://www.ieagreements.org/>

- (i) Since 1980, EA has required the accredited professional engineer qualification to be of four full-time study years' duration (or part-time equivalent) post secondary school. Since 1980, the majority of graduates at many universities have been awarded their degree 'with Honours'. Since 2014 providers been required (in order to comply with the the Australian HE Standards) to reconfigure their four-year degrees as 'Bachelor Honours Degrees' as defined in AQF Level 8. (These are subsequently referred to as BEng(Hons) in the text.) However, some providers are not yet reporting all of these degrees in the 'Bachelor Honours Degree' category. The Bachelor degree data presented in Fig 1 and Table 1 covers both AQF Level 7 and Level 8. (See also Section 4)
- (ii) More than half of the Australian university providers and some private providers are now offering Masters (coursework) degrees accredited by EA to the Professional Engineer standard (known as 'entry to practice Masters'). The aggregated numbers of Masters graduates presented here cover those from both entry to practice Masters programs, and those from coursework degrees aimed at extending the educational base of already qualified graduates.

These overlaps in award designations and purposes thus make it impossible to use the national aggregations to provide exact answers to questions like: 'How many domestic students were awarded an accredited Professional Engineering qualification in a given year?' or 'How many domestic engineering professionals are taking an advanced Masters degree?' Subsequent comments on graduations and commencements include observations on such points, on the basis of provider data.

1.3 Graduations: key point and trends

- (i) PhD graduations have almost doubled over the decade. This growth has been predominantly from the near quadrupling of international graduate numbers since 2006. International graduates made up of 55.6% of all the PhD graduates in 2016.
- (ii) The proportion of women in the PhD graduating cohort has tended to increase over the decade, with women making up approximately a quarter of graduates in recent years. Similarly to the previous year, 31% of the domestic graduates from Research Masters degrees were women.
- (iii) Coursework Masters graduate numbers (domestic and international) continued to increase, dominated by international students (71.1% in 2016). Much of this growth is due to the increasing numbers of graduates from accredited 'entry to practice Masters' degrees. The proportions of women (both domestic and international) are consistently a few points higher than for bachelors degrees.
- (iv) Other postgraduate awards (Graduate Certificates and Diplomas) continue to be dominated by domestic students (81% in 2015). These awards are likely to be exit points from advanced Masters programs taken by practicing professionals.
- (v) Bachelors degree domestic graduations rose to their higher-ever number in 2016 (to 7,743), and there was recovery of the international number from a dip in 2015. This total includes approximately 550 graduates from 3-year degrees (see Table 2), many of whom may be studying civil aviation. Many of the engineering graduates at this level articulate to professional engineering degrees.
- (vi) Taken together with known growth of entry to practice Master degree graduations, 2016 must have produced the largest ever numbers of domestic and international graduates qualified to enter professional engineering practice.
- (vii) Associate Degrees and Advanced Diplomas were awarded to more than 600 students for the fifth consecutive year. Many of the engineering graduates at this level use this qualification to articulate into professional engineering degrees.
- (viii) 'Other undergraduate' awards have nearly quadrupled since 2006: the 2016 total (1,350) includes an increasing number of international graduations; but this may still understate the true number of these, as not all universities assign these foundation diplomas to the engineering field of education. Many of these graduates will articulate to enrolments in Bachelor degrees as discussed in Section 5.

1.4 Undergraduate completions by award duration and branch of engineering

Appendix Table 2 provides details of undergraduate graduations, by duration and 4-digit code sub-classification of Engineering and Related Technologies.

The duration of awards provides insights into the types of qualifications being taken:

- (i) The 2-year Advanced Diploma and Associate Degrees awards are taken by a minority of students. Many of these use this qualification to articulate to Bachelor degrees, with advanced standing, rather than seek employment.
- (ii) 3-year Bachelor degrees in engineering may be aimed at the Engineering Technologist accredited qualification, although many in the 0315 Aerospace & Technologies area are likely to be in Civil Aviation for students aiming for this industry, including pilot training. As the latter numbers are probably increasing, it is evident that the 3-year Engineering degree is not attractive to either domestic or international students.
- (iii) 4-year degrees (nominally BEng(Hons) awards dominate graduations for both domestic and international students, as it is these that prepare graduates for accredited qualifications as Professional Engineers.
- (iv) The > 4-year degrees include dual degrees in which students take a second degree (mostly in science or management) alongside their BEng(Hons), or an industry-intensive one-year diploma of engineering practice alongside their BEng(Hons). Relatively few international students are taking these extended degrees.

Many of the universities report their graduations against two generic codes, rather than the available four-digit ASCED codes, rendering it impossible to report precisely on the distribution of graduates amongst the branches of engineering. On the assumption that the universities that do report against the 4-digit codes are typical of the system as a whole, the relative distributions of graduates across the branches of engineering from Bachelor Degrees, Associate Degrees, Advanced Diplomas and Diplomas combined are as in Figure 2. Key points include:

- (i) for domestic students, civil engineering graduations continue to rise, as ‘process and resource’³ engineering decrease; there are general downward trends in electrical/electronic engineering and in the mechanical and manufacturing areas;
- (v) for international students, mechanical and civil engineering graduations have picked up, while electrical/ electronics engineering graduations have turned down. Some of these degrees are being offered at offshore campuses.

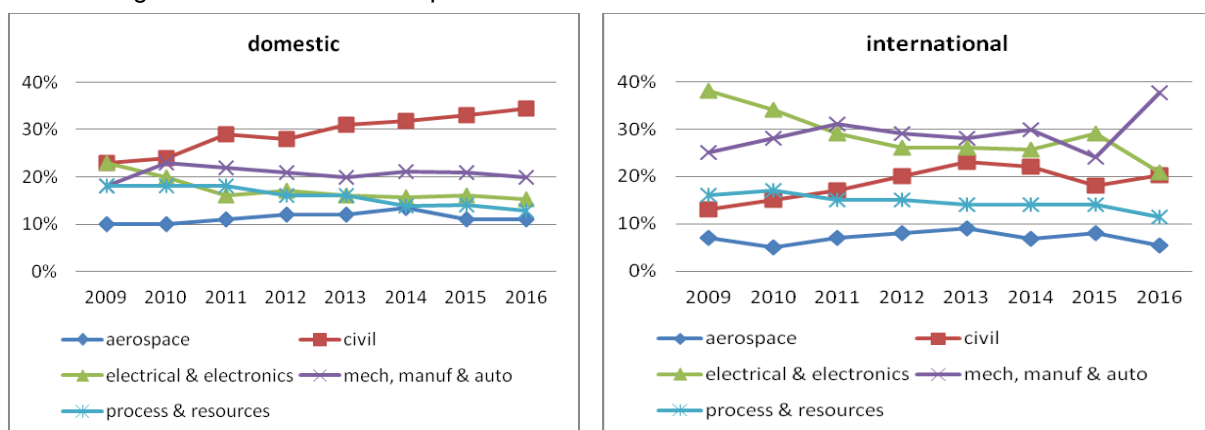


Figure 2 Distribution of undergraduate awards by branch of engineering, 2009-16

With more universities offering accredited entry to practice masters degrees, further data collection and analysis are needed to determine the real trends in graduations by engineering branch, for both domestic and international cohorts.

³ This combination is principally Chemical Engineering and Mining Engineering.

2. TOTAL ENROLMENTS AND STUDENT LOAD

2.1 Total enrolments

The data by detailed award level are provided in Appendix Table 3, and summarised in Figure 3 for the broad award level categories. Naturally, total enrolments are the result of commencements (Section 5) and successful progression (Section 6).

The overall growth to more than 110,000 students in 2016 is primarily from international enrolments (10% increase from 2015), with a 20% increase in enrolments in coursework Master degrees. Most of these are in entry-to-practice programs.

Total domestic enrolments appear to have plateaued in 2014-5, for all broad award categories.

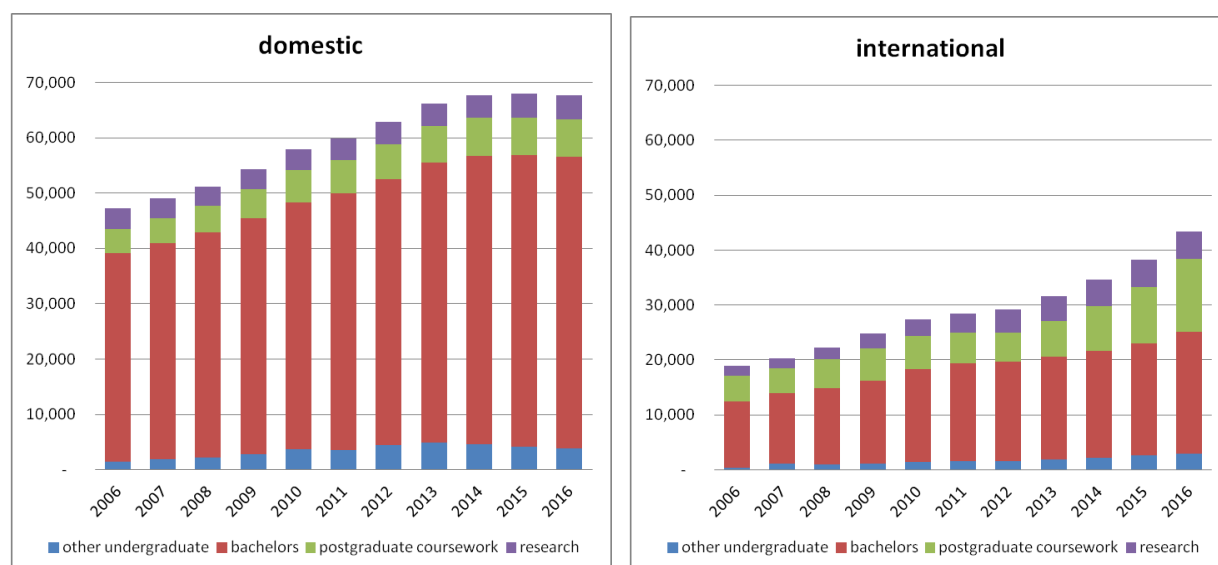


Figure 3 Domestic and international student enrolments, 2006-16

2.2 Student load

Funding for teaching and research training is normally based on 'taught student load'. The unit of measurement is one 'effective full-time student (EFT)' in the identified field of education. The following table summarises the load for the Engineering and Related Technologies field over the past five years.

year	doctorate	masters	other p/g	bachelors	other u/g	enabling	non-award	total
domestic 2012	2,304	2,080	766	31,962	1,563	65	33	38,890
domestic 2013	2,225	2,399	756	33,571	1,608	62	49	40,856
domestic 2014	2,378	2,730	746	34,681	1,609	55	69	42,267
domestic 2015	2,588	3,114	629	35,134	1,521	46	58	43,087
domestic 2016	2,695	3,249	546	34,783	1,455	7	51	42,787
% change v 2015	4.1%	4.3%	-13.2%	-1.0%	-4.3%	-84.8%	-12.1%	-0.7%
year	doctorate	masters	other p/g	bachelors	other u/g	enabling	non-award	total
total 2012	5,215	5,913	1,033	44,935	2,275	65	141	59,802
total 2013	5,640	7,192	914	47,220	2,408	62	395	63,999
total 2014	5,904	9,025	876	48,503	2,511	55	1,058	67,931
total 2015	6,207	10,931	749	49,765	2,529	46	975	71,201
total 2016	6,440	13,264	662	50,828	2,600	7	723	74,525
% change v 2015	3.8%	21.3%	-11.6%	2.1%	2.8%	-84.8%	-25.8%	4.7%

The international student load is the difference between the total and domestic load, for each corresponding cell. In line with total enrolments, the balance is shifting towards international load.

Overall load increased by 4.7% from the previous year, largely due to the growth in international students in Masters (coursework) degrees (21.1% in 2016). As discussed later, this growth is principally in EA accredited entry to practice Masters degrees. The distribution of load between the branches of engineering for 2016 is provided in Appendix Table 4.

Assuming all the 2016 load is attributed to teaching engineering students, the 74,525 EFTS load is generated by the 111,059 enrolled students. On average, and as for 2015, each engineering student represents approximately 0.67 EFT of engineering load. The difference between this number and parity is due to part-time enrolment and the contribution of teaching load from other academic areas into the engineering program. The majority of the latter is 'service teaching' of mathematics, science and computing into the first two years of undergraduate engineering.

In Section 6, the load data are combined with staff data to estimate the overall student-staff ratio for engineering teaching and research training.

3. COMMENCING ENROLMENTS

3.1 Aggregates, by level of qualification

Appendix Table 5 provides the details of commencing students numbers by award level. Figure 4 shows the trends for broad levels, over the past decade. Clearly, international commencement growth is underpinning the overall growth. As noted elsewhere in this report, the most recent international growth is primarily in coursework Masters degree enrolments, mostly in accredited entry to practice programs.

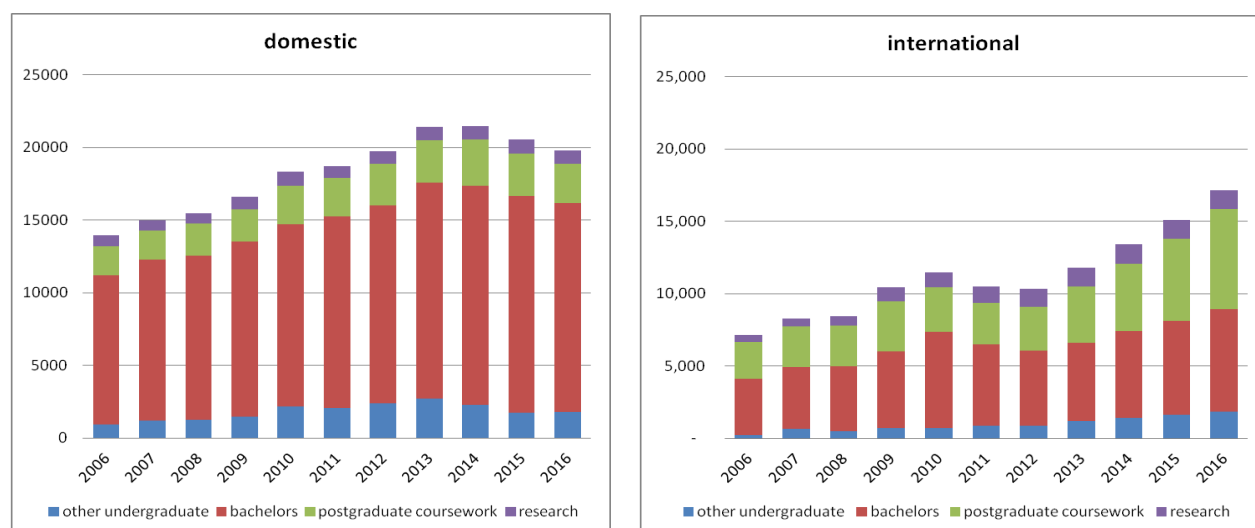


Figure 4 Domestic and international student commencing enrolments, 2006-16

Further comments on 2016 data and trends:

- (i) Doctoral Degree commencements declined slightly in 2016, with the proportion of international enrolments remaining above 60%, as it has since 2012.
- (ii) Research Masters domestic commencing enrolments in 2016 fell to 214, their lowest figure since 2008.
- (iii) Total commencements into Coursework Masters degrees increased by 16%, with 23.6% year on year increase (and 50% increase over 2 years) in international enrolments, primarily in entry to Masters degrees.
- (iv) Total Bachelor degree commencing enrolments were similar to the 2015 figure, although for the second successive year, domestic enrolments fell. As for the previous year, there was a 9% increase in international commencing enrolments at this level.
- (v) Commencing enrolments in Associate Degrees and Advanced Diplomas by domestic students continued to decline from 1,890 in 2013 to 1,136 in 2016, alongside a slight increase (to 236) in international commencements.
- (vi) Enabling courses and Diplomas had more than 11% in both domestic and international growth. As discussed in Section 4.3, these are clearly providing valued pathways into engineering degrees.
- (vii) Women commenced in coursework Masters and Bachelors degrees in similar proportions to 2015. The participation rates of women, at 15.7% for domestic Bachelors students, and 20.9% for coursework international Masters students were both the highest on record.
- (viii) Overall, the proportion of Australian women commencing any award in engineering increased slightly to 16.1%, the highest figure on record. At 19.9% the proportion of women in the international commencing cohort equalled last year's record (see Figure 5).

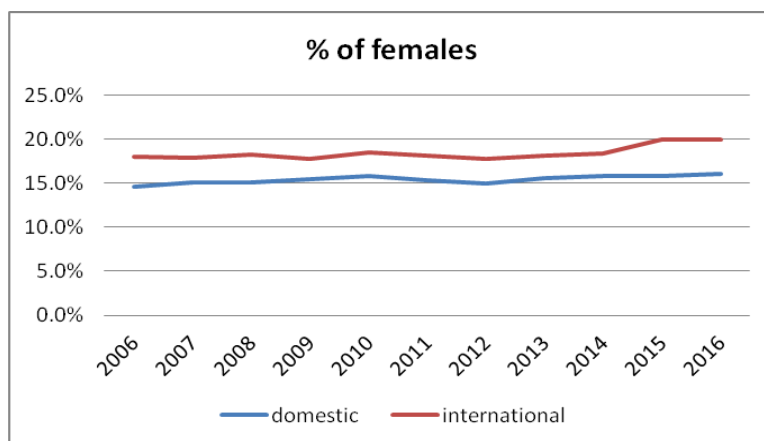


Figure 5 Proportions of women commencing in all awards in engineering, 2006-16

3.2 Domestic commencements across all fields of education

Figure 6 (data in Appendix Table 6) records the numbers of domestic students commencing in Higher Education in several fields of education, for all award levels. The total (405,085) in 2016 was slightly higher than for 2014, the previous highest for any year.

In 2016, and for the second successive year, the proportion of commencing domestic enrolments in engineering dropped, to 4.9% of the total, across all disciplines. This is the lowest proportion on record, and continues a decline evident last year. In contrast, commencing domestic enrolments in both Natural & Physical Sciences (8.8%) and Information Technology (3.0%) increased slightly from their 2015 figures.

Within this declining trend for all awards in Engineering, the proportion of domestic bachelors commencing entering engineering dropped to 5.3%, from a peak of 6.1% in 2013. This decline is partly offset by two universities no longer enrolling students directly into engineering bachelors' degrees⁴. See Appendix Table 7.

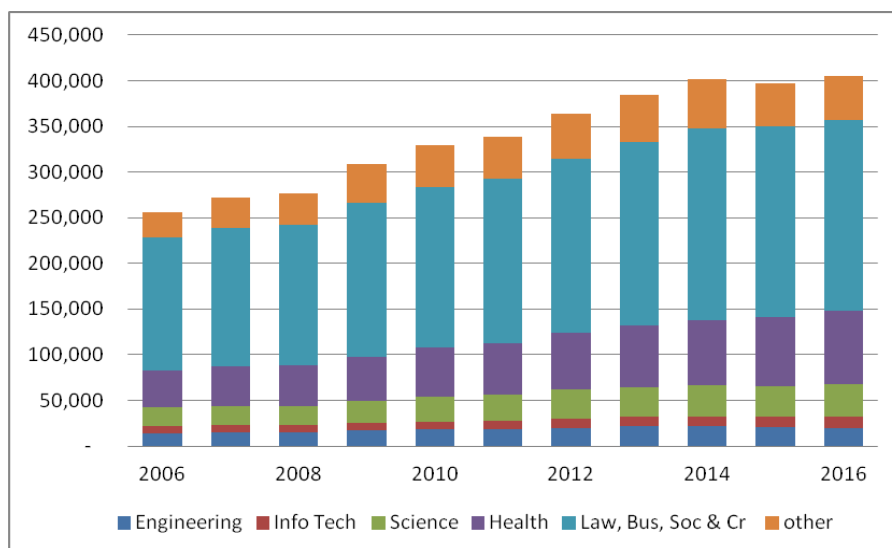


Figure 6 Domestic commencing enrolments (all awards) in selected fields, 2006-16

3.3 Basis of admission into bachelor degrees

The data in Appendix Table 8 shows that non-school-leaver entry has become more common for both domestic and international student categories.

For domestic students, since 2006, the total number of commencing Bachelor degrees students in engineering has increased by about 40%. Within these cohorts, the proportion gaining

⁴ The University of Melbourne and The University of Western Australia admit domestic engineering students into their Masters of Engineering programs, following a Bachelor degree taken with an engineering major.

admission on the basis of a completed or partially completed higher education award has increased from 13% to more than 23%, indicating the increased use of articulation pathways within higher education. The proportion admitted on the basis of a TAFE or VET qualification has been fairly steady around 7% since 2004.

The proportion admitted on the basis of secondary schooling (and their ATAR rank) has decreased steadily from more than 70% (in 2006) to less than 58% in 2016. The national Undergraduate Admissions, Offers and Acceptances report for 2016 noted that applicants to Engineering constituted 7.9% of the Year 12 applicant sub-cohort. Of these, 67% had ATAR greater than 80.

For *international students*, the admission patterns into Bachelors degrees have been much steadier over the years (while numbers have increased by 70%), with about 30% coming from secondary school, 30% entering engineering from a completed or partially completed higher education award, and a small and declining proportion coming from TAFE or VET.

3.4 Countries of origin of commencing on-shore international students

The international student and graduate data aggregates presented in this report include students in engineering qualifications provided overseas at campuses operated by Australian education providers, or in partnership with local off-shore providers. In 2016, of the total 17,134 international commencing students, 2,257 were offshore.

From the following Table, there has been a 75% increase in commencing onshore enrolments between 2012 and 2016. The countries are listed in rank order of commencing numbers in 2016. China has consistently been the leading source country by a large margin, followed by India. In 2016, these two countries accounted for nearly 60% of on-shore commencing enrolments.

Over that period, however, there have been changes in the relative proportions coming from other countries. Noteworthy are the rises of Pakistan, Sri Lanka and Nepal in both proportions and/or rankings, and falls for both Saudi Arabia and Indonesia.

Country of origin	2016		2015		2014		2013		2012	
	number	%	%	rank	%	rank	%	rank	%	rank
China (excl SARs, and Taiwan)	6,241	42.0	39.1	1	35.1	1	34.1	1	35.3	1
India	2,437	16.4	15.2	2	15.5	2	12.7	2	8.6	2
Malaysia	690	4.6	5.4	3	6.1	3	7.5	3	6.8	3
Pakistan	633	4.3	4.2	4	3.5	4	2.9	6=	2.6	8
Sri Lanka	436	2.9	2.6	7	2.1	9=	2.1	11	2.3	9
Viet Nam	405	2.7	3.2	5	2.9	5=	2.8	8=	3.2	6
Bangladesh	343	2.3	2.1	9	2.1	9=	2.2	10	2.2	10
Saudi Arabia	304	2.0	2.8	6	2.9	5=	2.8	8=	4.0	5
Indonesia	278	1.9	2.3	8	2.3	8	2.9	6=	2.9	7
Nepal	273	1.8	1.2	14	1.9	13	2.0	12	1.0	15
Total commencements	14,877		12,988		11,261		9,871		8,478	

Within each total, the distributions of on-shore commencing enrolments into undergraduate and postgraduate degrees reveal some distinct patterns. Appendix Table 9 provides data for 2015 and 2016, extended to the top 16 countries of origin. These data show:

- (i) for postgraduate research (in 2015), Iran (10.1%), Bangladesh (6.0%), Iraq (5.0%) and Viet Nam (4.6%) were ranked 3rd – 6th, after China (33.0%) and India (10.3%);
- (ii) for postgraduate coursework (in 2015), China (43.9%) and India (25.9%) dominate. Only Pakistan (5.7%) had more than 2% of commencing enrolments;
- (iii) for Bachelors degrees (including Honours) (in 2016), Malaysia (11.6%) retained second place behind China (35.5%), and India (6.5%) and Viet Nam (4.3%) in third and fourth places, respectively.

4. COMMENCEMENTS AND COMPLETIONS BY INDIGENOUS STUDENTS

The numbers of Indigenous students in Engineering and Related Technologies reported in the DET data are small, and are very small proportions of the totals.

The following Table shows the national Indigenous commencements and completions in broad award categories over 2011-16. While commencing Indigenous student numbers in Bachelor degrees have increased by 50% since 2011, they remain, in 2016, considerably less than 1% of the total.

	P/G by Res'ch	P/G C'rsewk	Bachelor (inc Hons)	Other	Total		
	Persons	Persons	Persons	Persons	Male	Female	Persons
Commencements							
2011	< 5	13	66	24	87	17	104
2012	< 5	8	60	30	87	13	100
2013	< 5	10	110	21	128	16	144
2014	< 5	14	115	25	136	20	156
2015	< 5	12	108	23	124	21	145
2016	12		102	20	115	19	134
Completions							
2011	0	< 5	22	< 5	np	< 5	28
2012	0	< 5	23	< 5	26	5	31
2013	< 5	< 5	25	6	np	< 5	35
2014	0	8	37	7	45	7	52
2015	< 5	11	34	< 5	43	6	49
2016	7		38	10	51	4	55

Further data in Appendix Table 10 breaks down the later data by State and Territory. Since 2012, Queensland has consistently enrolled the largest number of Indigenous students in Engineering, followed by New South Wales.

5. BACHELORS DEGREES: PROGRESSION AND GRADUATION RATES

5.1 Annual success rates

The **success rate** is defined as the aggregated proportion of courses (units of study) passed by a cohort of enrolled students in a given year. The summary table (from Appendix Table 11) shows the aggregated success rates in 2016 in comparison with immediate previous years, and a baseline of 2001. Data are provided for commencing students (these include students with advanced standing but not in the first program year) and for all students, including those in their commencing year.

Aggregated student success rates do not change much from year to year, but an increasing trend is evident over time for all of the categories shown. In addition:

- part-time students' success rates are consistently lower than those of full-time students;
- women perform consistently better than their male peers;
- international students have higher success rates than domestic students;
- the 'all student' rates are a few per cent higher than those of commencing students, demonstrating that once students are firmly in their program, they will tend to succeed.

Success rates	Domestic				International			
	male		female		male		female	
	full-time	part-time	full-time	part-time	full-time	part-time	full-time	part-time
<i>For commencing students</i>								
2001	82.1	63.7	86.6	65.4	83.6	70.4	88.5	77.2*
2014	83.3	72.0	87.5	73.0	83.1	78.7	89.6	71.3
2015	83.9	69.9	87.8	76.7	83.4	75.2	89.4	81.7
2016	84.4	68.3	87.1	71.2	83.8	80.4	90.5	77.7
<i>For all students (mostly over 3 or more years of study)</i>								
2001	85.5	72.0	89.5	77.8	85.7	76.6	89.1	80.6
2014	86.7	74.3	89.8	79.3	85.9	78.7	91.4	83.6
2015	87.2	75.1	90.4	78.7	86.2	76.9	91.2	82.9
2016	86.9	73.8	89.2	75.7	86.1	78.8	90.9	74.6

5.2 Annual retention rates

Retention rates record successful progression to a subsequent year of study, or graduation. The most recent validated data is the retention from 2015 into a confirmed enrolment in 2016, or graduation. Two sets of aggregated retention data are provided here. Retention in the institution allows for students to change program; retention in engineering indicates progression within the degree or change to another engineering program. Up to last year, this data set recorded retention only within the same institution. The 2015 the retention in engineering data has been adjusted by using students' individual identification numbers (CHESSN) to include students who move to another institution.

Retention in the institution:

Retention in the institution	Domestic				International			
	male		female		male		female	
	full-time	part-time	full-time	part-time	full-time	part-time	full-time	part-time
<i>For commencing students</i>								
2001	87.7	65.8	89.6	65.4	91.3	71.8	93.5	80.9*
2013	87.6	65.7	89.1	66.5	91.8	84.0	94.5	76.7*
2014	87.8	68.0	90.7	66.7	91.9	87.3	94.8	87.0
2015	87.8	67.0	88.9	67.8	88.2	83.9	92.6	87.8
<i>For all students</i>								
2001	89.0	70.1	91.3	72.7	90.3	71.3	94.2	76.6*
2013	88.6	70.3	90.2	70.1	89.9	71.7	93.8	71.5
2014	89.0	68.2	92.1	68.6	90.3	72.5	93.9	71.1
2015	89.9	72.1	91.4	73.5	88.6	72.4	92.8	78.0

Similar comments to those for the success rates apply. Indeed, there is a causal relationship between retention and success: a student who does not succeed in passing courses (at least to some extent) will not progress, although may enroll in another program. On average women are retained at higher rates than their male peers.

Retention in engineering:

Retention in engineering	Domestic				International			
	male		female		male		female	
	full-time	part-time	full-time	part-time	full-time	part-time	full-time	part-time
<i>For commencing students:</i>								
2001	82.0	61.7	81.9	59.7	88.1	69.8	91.4	78.8*
2013	83.2	62.1	83.5	62.2	90.6	84.0	92.6	76.7*
2014	83.5	65.9	85.3	65.1	90.9	86.7	92.9	85.2
2015	92.5	73.7	95.8	76.2	92.0	85.0	94.8	93.9
<i>For all students:</i>								
2001	85.3	67.2	86.8	68.3	88.0	69.9	91.4	74.8*
2013	85.7	68.1	86.3	66.8	88.8	71.0	92.4	70.0*
2014	86.2	65.9	88.2	64.0	89.5	71.6	92.8	69.8
2015	93.2	76.4	96.3	77.3	92.2	75.3	95.0	79.9

* small numbers

The change in data collection to adjust for institutional transfer has resolved a long concern about the interpretation of previous retention data. Comparison of the 2014 and 2015 data for domestic students validates ACED's previous estimate of about 8% transfers.

Furthermore, comparison of the retention in engineering with the retention in institution indicates that more domestic students transfer institution and continue in engineering than transfer to another field of study within the same institution. Overall, annual retention in engineering at better than 92% for all categories of full-time student is a strong figure, given the size and diversity of the engineering student population. Women are retained at higher rates than their male peers.

5.3 Completion rates

While the annual success and retention data record aggregated annual progression, stakeholders are also interested in answering such questions as

- (i) 'What proportion of students commencing engineering are likely to complete (graduate) in a given time'; or
- (ii) 'What pathways did a given year's graduates take to get their engineering degree'

ACED previously conducted cohort studies with a representative sample of its members, and deduced that on average, around 65% of those who commence a Bachelor degree in Engineering would complete it, including the estimated 8% transferring to another institution, referred to above. Using student CHESSN data, DET is now able to undertake cohort studies that can answer such questions.

From national completion rate reports, for domestic students commencing Bachelors degrees in Engineering & Related Technologies in 2005 and 2006, after nine years, 74.7% and 75.6% respectively, had graduated. The reported 8-year outcomes account for transfers between providers (HEPs), as summarised here:

Year first enrolled	Graduated		Still enrolled at the end of 8 years cohort period		Re-enrolled but dropped out after 8 years		Never came back after first year
	same HEP	diff HEP	same HEP	diff HEP	same HEP	diff HEP	
2005	66.5%	6.3%	4.1%	3%	11.4%	2.8%	5.7%
2006	66.8%	6.9%	4.4%	3%	11.3%	2.8%	5.0%

These graduation rates cannot be interpreted as the 'likelihood of completion' of the original degree, because the reported graduation may be in another field of education. These data cannot answer question (i) above.

Question (ii) can be answered, at least in general terms, by data on graduating cohorts. Specifically, for each graduating domestic cohort, the year and institution of commencement in higher education. DET has provided ACED with relevant data for graduating Bachelors degree cohorts in Engineering and Related Technologies.

The following Table shows that at least 90% of the domestic graduates in Engineering commenced in the same institution (confirming earlier findings). The accuracy of future data should increase, with further reduction of the numbers of ‘unknowns’.

Year of completion	Institution of commencement			Total graduates	% commencing in same institution
	same	different	unknown		
2012	6,096	340	332	6,768	90.1%
2013	6,338	388	273	6,999	90.6%
2014	6,702	438	211	7,351	91.2%
2015	6,894	539	182	7,615	90.5%

The duration of study to graduation data are also informative. As an example, for the 2015 graduating cohort, the data in the following Table confirms the reasonable assumption that changing institution is likely to increase the overall duration of study by about one year.

Institution of commencement	total graduates	Year of commencement										
		2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
same institution	6,894	43	113	253	1736	2030	1569	653	248	138	74	37
different institution	539					114	130	98	60	41	31	32
same institution: % of sub-cohort	90.5%	0.6	1.6	3.7	25.2	29.4	22.8	9.5	3.6	2.0	1.1	0.5
different inst.: % of sub-coh	7.5%					21.1	24.1	18.2	11.1	7.6	5.8	5.9

The interpretation of these aggregates is not simple. While their graduation year is fixed, graduates study patterns are diverse, in terms of degree programs (nominally 3-year, 4-year and greater than 4 year), study mode (full-time or part-time), and institutional transfer with or without credit from within the higher education system.

This diversity is illustrated by considering the nominally principal program and mode contained within these aggregates. This is the 4-year BEng(Hons) degree, taken in full-time mode all at the , same institution, typically by a school leaver commencer. If all the graduates in the ‘same institution’ sub-cohort were in this mode and studied in lock step, they would all have commenced in 2012. Yet it is clear that only 25% of the 2015 graduates did commence in this ‘minimum time’.

What is evident from these data is that more than 75% who do study and complete a Bachelors degree in Engineering and Related Technologies in the same institution, do complete within six years of commencement in higher education. This is an important message for stakeholders, some of whom still may believe that the standard engineering degree is of three year’s duration. The most recent DET report on completion rates does warn against misinterpretation of its published four-year completion rate data.

6. GRADUATE OUTCOMES

National reporting on graduate outcomes and employment changed in 2016 with their inclusion in the DET Quality Indicators for Learning and Teaching (QILT) initiative. QILT surveys cover graduate satisfaction, graduate outcomes (employment rates and median salaries), and employer satisfaction, for graduates of postgraduate coursework and research programs, as well as those from undergraduate degrees.

Details and recent trends for Engineering employment and remuneration compared with other fields of education are provided in Appendix Tables 14. Key points:

- (i) Engineering graduates from undergraduate programs are gaining full-time employment at higher rates than most other areas, and receive higher median salaries. For those completing in 2015 and 2016:

	% in full-time employment	median salary (first FT employment, < 25 yr olds)	% in any employment
2015 undergraduate Engineering	76.4%	\$ 62,600	83.9%
2015 undergraduates All areas	70.9%	\$ 60,000	86.4%
2016 undergraduate Engineering	79.4%	\$ 64,000	86.5%
2016 undergraduates All areas	71.8%	\$ 59,900	86.5%

- (ii) Trend data (Appendix Table 14 (b)) for undergraduates in the branches of engineering reported in the QILT survey, show all discipline areas other than Electrical & Electronic Engineering have higher full-time employment rates than two years previously.
- (iii) Women (Appendix Table 14 (c)) who graduate from undergraduate programs are paid at higher rates than their male peers.
- (iv) Postgraduate coursework graduates in Engineering gain employment at higher rates and median salaries than other disciplines (Appendix Table 14 (c)). The Engineering graduates are from both entry-to-practice programs and programs designed for qualified engineers to advance their knowledge and skills (and who may already be in employment).
- (v) Research degrees in Engineering are not rewarded with a higher median salary than other disciplines, or a postgraduate coursework degree in engineering (Appendix Table 14 (c)).

The Graduate Satisfaction data reported in the QILT report (See Appendix Table 15(a)) show that of the 2016 Engineering graduates from undergraduate' programs:

- (i) Less than half rated their program in the top two points of a 5-point agreement scale on 'Good Teaching'. This is lowest satisfaction amongst all reported areas of education.
- (ii) In contrast, 84.0% gave high ratings to their 'Generic Skills' acquisition; higher than most reported areas.
- (iii) Although 75.4% rated 'Overall Satisfaction' in the top two points of the 5-point agreement scale, this is a lower proportion than other reported areas.

Postgraduate coursework graduates gave somewhat more favourable ratings. Research graduates rate their experience more highly than other fields, in almost all survey dimensions.

The 2017 Employer Satisfaction Survey recruited 'employer' respondents by asking graduates to nominate their supervisor. As volunteers, those who responded were likely to be well disposed towards the graduates. With 89.9% of employers rating Engineering graduates in the top two points of a 5-point agreement scale, the top-rated field of education for 'Overall Satisfaction'. In four of the skills areas (Foundation, Adaptive, Collaborative and Technical), Engineering was rated top or near top (see Appendix Table 15 (b)). Only in 'Employability' was Engineering rated as average. Furthermore, these supervisors rated the importance of the qualification highly, and rated well the extent to which it prepared the graduates for their current employment (see Appendix Table 15 (c)).

7. ACADEMIC STAFF DATA AND STUDENT STAFF RATIOS

From the DET sources, the total academic staff (full time equivalent) in non-casual positions are provided in Appendix Table 16, and Figure 7. However, these totals probably slightly underestimate total engineering academic staffing, because of the combination of two factors:

- some universities with engineering in a multi-field academic structure report either zero engineering staff;
- some universities attribute all of the academic staff in that structure against engineering.

The individual university responses for ACED members are shown in Table 17.

The number of FTE teaching staff (in Teaching-only and Teaching & Research positions) increased in 2016 to its highest-ever value (2,395), but the number of Research-only staff dropped by 112 from its 2015 peak of 1,816.

The FTE number of women in teaching positions increased slightly from the 2015 figure, holding the proportion to 14.6%. The FTE number and proportion of women in research-only positions declined, for the fifth successive year (Fig 8 a). The proportion of women in above-Level C and Level C (Senior Lecturer) positions (Fig 8b) increased very slightly from the 2015 figures.

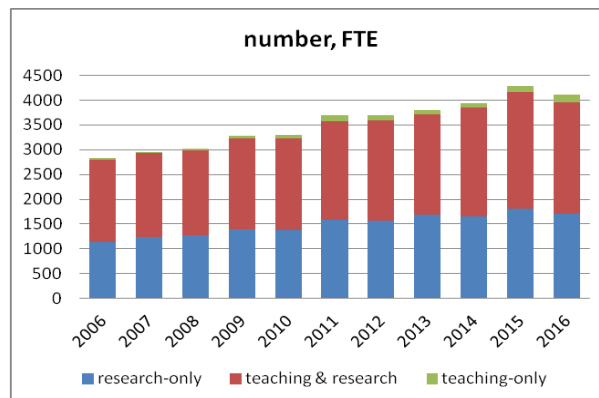


Figure 7 Academic staffing (FTE) in Engineering & Related Technologies, 2006-16

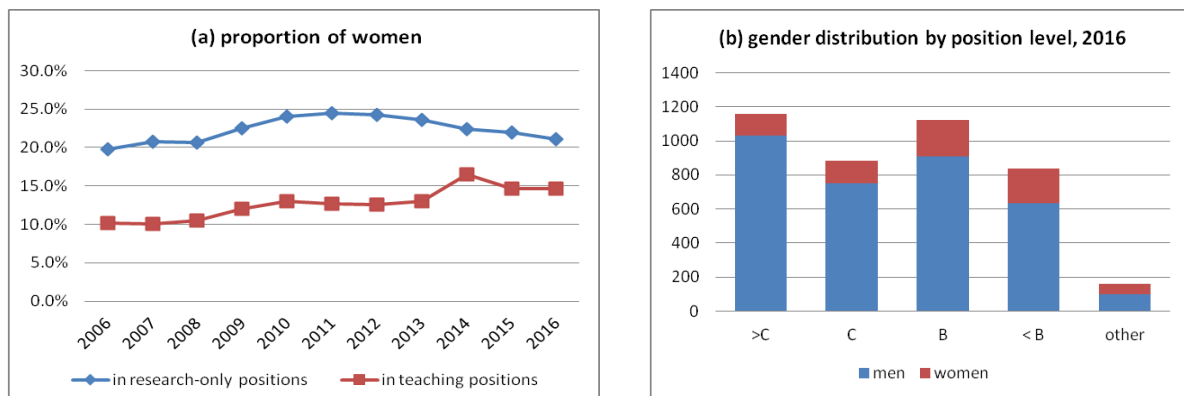


Figure 8 Female engineering academic staff (FTE) in Engineering & Related Technologies: (a) proportions by academic role 2006-16, (b) numbers by gender and position level, 2016

The *raw student-staff ratio* is approximately $(74,525/2,395) = 31.1$. This is slightly greater than last year's figure, but is probably an overestimate because of the net under-reporting of staffing numbers. It is also effectively *reduced* by the contributions of casual staff and research staff to teaching, but may also *be increased* where staff in Teaching & Research positions are allocated to full-time research or management positions, or are on study leave, and are replaced by casual staff.

Comparable student-staff ratios can be calculated for the member faculties using the data in Table 14. Their interpretation is likely to be institution dependent.

8. DISTRIBUTION OF ENROLMENTS, ETC. FOR ACED MEMBERS

Table 17 provides summary data on the commencing and total enrolments and graduation and staffing from all the ACED members.

From these data it is clear that one institution, the University of New South Wales (including its College at Canberra which is a member of ACED in its own right) has the most enrolments and graduations by some margin.

The sixteen Australian universities in the eleven member Group of Eight Engineering Deans and Associates (that includes Newcastle, Wollongong and Auckland), plus the six 'technology' universities (the ATN group plus Swinburne) have more than 78% of total engineering enrolments, and nearly 85% of international enrolments.

9. CONCLUDING COMMENTS

As in previous years, Tables 2 and 17 raise questions about the completeness and accuracy of the data that ACED member universities are providing to the Higher Education Statistics Unit.

I can provide ACED members with their own items if they are interested, although it would be very time consuming to extract a set for each member. In addition, members should interrogate their own university statistics units to gain insight into any data that appear anomalous.

10. SOURCES

The enrolments, graduations, basis of admission, success, retention and completion and staffing data presented in the following Tables were purchased from DET.

Load data and less detailed data on enrolments and graduations are freely available in Tables that may be downloaded from <https://www.education.gov.au/higher-education-statistics> or compiled from the DET datacube at <http://highereducationstatistics.education.gov.au/>.

The DET website from <https://www.education.gov.au/higher-education-statistics> also includes links to annual Undergraduate Applications, Offers and Admissions reports, and to reports on Completion Rates for undergraduate students.

The QILT (Quality Indicators for Teaching and Learning) website <https://www.qilt.edu.au/about-this-site> provides links to the 2016 and 2017 Graduate Outcomes Surveys and the 2017 Employer Satisfaction Survey. Previous year graduate outcomes data was produced by Graduate Careers Australia. <http://www.graduatecareers.com.au/research/surveys/australiangraduatesurvey/>

ACED takes responsibility for any errors in transcribing and interpreting data from these sources.

Prof Robin W King
Consultant to ACED
31 January 2018

APPENDIX: SUPPORTING TABLES

TABLE 1 ENGINEERING GRADUATIONS 2006 – 2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
DOCTORATES	695	772	697	705	792	782	953	1,113	1,268	1,259	1,358
domestic total	487	519	513	479	474	399	496	536	572	603	603
% domestic female	20.1%	21.4%	24.2%	21.1%	22.0%	23.3%	23.2%	24.8%	27.3%	23.2%	27.0%
international total	208	253	184	226	318	383	457	577	696	656	755
% international female	16.8%	18.2%	17.4%	19.9%	19.9%	23.0%	25.2%	27.0%	24.3%	26.7%	23.0%
% international	29.9%	32.8%	26.4%	32.1%	40.2%	49.0%	48.0%	51.8%	54.9%	52.1%	55.6%
RESEARCH MASTERS	264	230	228	185	196	235	212	245	218	229	244
domestic total	139	135	127	99	99	115	100	132	103	108	116
% domestic female	24.5%	25.9%	19.7%	18.2%	23.2%	26.1%	15.0%	22.0%	22.3%	31.5%	31.0%
international total	125	95	101	86	97	120	112	113	115	121	128
% international female	17.6%	21.1%	24.8%	25.6%	33.0%	22.5%	31.3%	26.5%	24.3%	41.3%	27.3%
% international	47.3%	41.3%	44.3%	46.5%	49.5%	51.1%	52.8%	46.1%	52.8%	52.8%	52.5%
COURSEWORK MASTERS	2,406	2,586	2,878	3,134	3,684	3,829	3,404	3,758	4,138	4,748	5,431
domestic total	576	686	690	788	1,024	1,045	1,145	1,335	1,426	1,543	1,567
% domestic female	15.5%	20.1%	18.3%	17.6%	18.6%	16.1%	15.4%	17.9%	18.8%	19.4%	17.70%
international total	1,830	1,900	2,188	2,346	2,660	2,784	2,259	2,403	2,712	3,205	3,864
% international female	15.9%	15.4%	18.4%	18.8%	18.7%	18.9%	19.3%	19.5%	19.1%	19.5%	20.7%
% international	76.1%	73.5%	76.0%	74.9%	72.2%	72.7%	66.4%	64.3%	65.5%	67.5%	71.1%
OTHER POSTGRADUATE	655	659	763	829	951	1,098	921	945	958	1,008	774
domestic total	417	447	522	588	672	746	704	763	794	848	643
% domestic female	16.1%	22.4%	20.9%	19.0%	22.2%	17.8%	19.5%	17.6%	21.8%	18.4%	17.9%
international total	238	212	241	241	279	352	217	219	164	160	137
% international female	13.0%	14.6%	19.5%	17.0%	15.1%	13.6%	11.1%	16.0%	18.9%	21.3%	18.2%
% international	36.3%	32.2%	31.6%	29.1%	29.3%	32.1%	23.6%	22.3%	20.7%	18.9%	17.7%
BACHELORS	8,369	8,076	8,661	8,652	9,149	9,849	10,261	11,018	11,373	11,117	11,561
domestic total	6,026	5,786	6,077	6,063	6,237	6,534	6,795	7,044	7,392	7,634	7,743
% domestic female	16.0%	14.8%	14.7%	14.9%	14.7%	14.6%	14.9%	14.6%	15.3%	14.3%	14.60%
international total	2,343	2,290	2,584	2,589	2,912	3,315	3,466	3,974	3,981	3,483	3,818
% international female	18.7%	19.8%	21.2%	18.3%	18.4%	18.2%	18.1%	18.2%	19.9%	19.4%	19.6%
% international	28.0%	28.4%	29.8%	29.9%	31.8%	33.7%	33.8%	36.1%	35.0%	31.3%	33.0%
ASSOC DEG & ADV DIPL	97	159	564	369	417	384	663	617	620	699	670
domestic total	87	133	175	278	320	327	518	479	523	570	543
% domestic female	4.6%	9.0%	11.4%	8.6%	10.9%	~ 8%	~ 7%	8.1%	9.6%	9.5%	10.1%
international total	10	26	389	91	97	57	145	138	97	129	127
% international female	0.0%	7.7%	20.8%	4.4%	5.2%	~11%	~6%	8.0%	12.4%	12.4%	3.9%
% international	10.3%	16.4%	69.0%	24.7%	8.0%	14.8%	21.9%	22.4%	15.6%	18.5%	19.0%
OTHER UNDERGRAD	376	510	76	314	404	534	501	551	1,035	1,029	1,350
domestic total	258	233	60	60	109	130	141	152	264	239	285
% domestic female	1.9%	6.4%	15.0%	8.3%	4.6%	~ 8%	~ 7%	13.2%	7.6%	7.5%	7.4%
international total	118	277	16	254	295	404	360	399	771	790	1,065
% international female	40.7%	29.2%	31.3%	13.8%	10.8%	~ 11%	~10%	8.0%	10.0%	14.1%	12.0%
% international	31.4%	54.3%	21.1%	80.9%	73.0%	75.7%	71.9%	72.4%	74.5%	76.8%	78.8%
ALL GRADUATES	12,862	12,992	13,867	14,188	15,590	16,484	16,912	18,286	19,550	20,089	21,394
domestic total	7,990	7,939	8,164	8,355	8,935	9,257	9,896	10,461	11,074	11,545	11,500
% domestic female	15.8%	15.9%	16.0%	15.6%	15.9%	15.2%	15.2%	15.5%	16.5%	15.5%	15.7%
international total	4,872	5,053	5,703	5,833	6,655	7,227	7,016	7,825	8,476	8,544	9,894
% international female	17.8%	18.3%	20.0%	18.2%	18.3%	18.0%	18.3%	18.6%	19.2%	19.7%	19.3%
% international	37.9%	38.9%	41.1%	41.1%	42.7%	43.8%	41.5%	42.8%	43.4%	42.5%	46.2%

TABLE 2 UNDERGRADUATE GRADUATIONS 2016, BY AWARD, DURATION AND 4-DIGIT FOE CODE

YEAR/SOURCE/LEVEL	TOTAL	0300	0301	0303	0305	0307	0309	0311	0313	0315	0317	0399
Domestic												
Assoc Degree, Adv Dip	541	68	0	< 5	0	9	52	0	8	15	< 5	389
up to 3-year Bach	544	31	< 5	16	<5	12	0	31	26	264	10	154
4-year Bach	5304	821	31	398	16	668	1278	135	502	156	97	1202
> 4-year Bach	1888	617	9	172	0	155	255	< 5	165	70	16	429
TOTAL DOMESTIC	8277	1537	< 45	< 591	< 21	844	1585	< 171	701	505	< 128	2174
% female		12.6%	20.0%	27.1%	0.0%	9.1%	15.8%	6.4%	10.6%	17.8%	4.7%	15.7%
~ % of total (ex 300/399)			1.0%	12.9%	0.5%	18.4%	34.5%	3.7%	15.3%	11.0%	2.8%	
International												
Assoc Degree, Adv Dip	127	8	0	0	0	< 5	15	0	7	<5	10	82
up to 3-year Bach	303	49	36	10	0	12	21	< 5	35	91	14	35
4-year Bach	3421	692	10	309	10	500	529	4	553	57	83	678
> 4-year Bach	589	26	0	7	0	512	16	0	5	< 5	7	16
TOTAL INTERNATIONAL	4440	775	46	326	10	1027	581	<9	600	<158	114	811
% female		19.6%	54.3%	33.7%	0.0%	4.3%	21.0%	-	14.5%	17.1%	6.1%	21.9%
~ % of total (ex 300/399)			1.6%	11.4%	0.3%	35.8%	20.3%	0.2%	20.9%	5.5%	4.0%	
% international	34.9%	33.5%	50.5%	35.6%	32.3%	54.9%	26.8%	3.9%	46.1%	23.8%	47.1%	27.2%

<p>ASCED 4-digit codes</p> <p>0300 Engineering & Related Technologies 0301 Manufacturing Eng. & Tech. 0303 Process & Resources Engineering 0305 Automotive Eng. & Tech. 0307 Mechanical & Industrial Eng & Tech. 0309 Civil Engineering 0311 Geomatic Eng. & Tech 0313 Electrical & Electronic Eng. & Tech, 0315 Aerospace Eng. & Tech. 0317 Maritime Eng. & Tech 0399 Other Engineering & Related Tech's</p>	<p><u>Notes:</u></p> <p>Low numbers (<5) are suppressed in individual providers' returns to avoid identification of individuals. In the aggregates some of these are resolved by subtraction. The percentages calculated ignore the <5 entries.</p> <p>ANU, Curtin, CQUni, JCU, Murdoch UTS, UWA, WSU use code 0300 for most Bachelor degree graduates.</p> <p>CDU, Griffith, Monash, QUT and USQ and use code 0399 for most Bachelor degree graduates</p> <p>"Software engineering" does not appear specifically in the ASCED codes for either engineering or Information Technology (ASCED FOE code 02), so may be classified in the universities' returns in different ways.</p> <p>The 0301 manufacturing engineering sub-code includes "printing", "textile/garment/furniture making", that are likely to be more relevant to sub degree-level HE qualifications offered by the VET sector.</p> <p>The 0315 Aerospace Eng. and Technology includes 3-year civil aviation degrees, taken primarily by students aiming towards the aviation industry. Many of these programs offer commercial pilot training in parallel with the academic award.</p> <p>The full set of ASCED codes is at: http://www.abs.gov.au/Ausstats/abs@.nsf/0/E7779A9FD5C8D846CA256AAF001FCA5C?opendocument</p>
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TABLE 3 TOTAL ENROLMENTS (STUDENTS) 2006 – 2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
DOCTORATES	4,199	4,340	4,559	5,054	5,567	6,258	7,059	7,427	7,668	8,035	8,338
domestic total	2,935	2,917	2,852	2,866	2,982	3,183	3,404	3,389	3,372	3,617	3,788
% domestic female	21.2%	21.6%	22.4%	22.9%	23.8%	23.9%	23.7%	24.9%	25.5%	25.5%	26.1%
international total	1,264	1,423	1,707	2,188	2,585	3,075	3,655	4,038	4,296	4,418	4,550
% international female	20.8%	21.8%	24.8%	26.0%	26.4%	27.1%	26.6%	25.7%	25.9%	25.9%	26.0%
% international	30.1%	32.8%	37.4%	43.3%	46.4%	49.1%	51.8%	54.4%	56.0%	55.0%	54.6%
RESEARCH MASTER'S	1,214	1,178	1,018	1,120	1,245	1,191	1,194	1,148	1,191	1,182	1,070
domestic total	786	732	598	697	769	704	689	662	684	712	660
% domestic female	20.6%	19.4%	20.9%	19.5%	20.0%	19.9%	20.6%	22.4%	21.8%	21.5%	21.4%
international total	428	446	420	423	476	487	505	486	507	470	410
% international female	21.0%	25.1%	26.4%	29.8%	28.6%	27.9%	29.9%	29.8%	27.6%	26.6%	28.8%
% international	35.3%	37.9%	41.3%	37.8%	38.2%	40.9%	42.3%	42.3%	42.6%	39.8%	38.3%
COURSEWORK MASTERS	6,656	6,699	7,706	8,630	9,266	8,999	9,078	10,566	12,776	15,237	18,381
domestic total	2,312	2,536	2,764	3,164	3,630	3,856	4,061	4,434	4,822	5,159	5,358
% domestic female	18.6%	18.1%	18.3%	17.0%	17.3%	16.9%	16.9%	17.7%	18.6%	18.8%	17.9%
international total	4,344	4,163	4,942	5,466	5,636	5,143	5,017	6,132	7,954	10,078	13,023
% international female	15.7%	16.6%	17.5%	17.1%	18.1%	18.4%	18.5%	17.6%	17.7%	18.9%	20.2%
% international	65.3%	62.1%	64.1%	63.3%	60.8%	57.2%	55.3%	58.0%	62.3%	66.1%	70.9%
OTHER POSTGRADUATE	2,546	2,398	2,486	2,556	2,611	2,555	2,554	2,525	2,286	1,924	1,533
domestic total	2,122	2,007	2,085	2,085	2,151	2,122	2,206	2,177	2,051	1,698	1,328
% domestic female	19.1%	18.6%	19.1%	19.0%	19.6%	20.0%	18.8%	19.4%	17.8%	17.4%	17.1%
international total	424	391	401	471	460	433	348	348	235	226	205
% international female	15.3%	15.1%	15.7%	13.8%	16.1%	17.1%	17.2%	19.5%	20.0%	21.2%	21.5%
% international	16.7%	16.3%	16.1%	18.4%	17.6%	16.9%	13.6%	13.8%	10.3%	11.7%	13.4%
BACHELORS	49,676	51,848	54,556	57,842	61,518	64,236	66,207	69,342	71,560	73,138	74,874
domestic total	37,622	39,058	40,693	42,726	44,656	46,385	48,083	50,547	52,135	52,755	52,722
% domestic female	13.5%	13.6%	13.7%	13.7%	14.0%	13.8%	13.4%	13.7%	14.1%	14.4%	14.9%
international total	12,054	12,790	13,863	15,116	16,862	17,851	18,124	18,795	19,425	20,383	22,152
% international female	17.6%	17.9%	17.7%	17.5%	17.6%	17.5%	17.4%	17.7%	18.1%	19.0%	19.3%
% international	24.3%	24.7%	25.4%	26.1%	27.4%	27.8%	27.4%	27.1%	27.1%	27.9%	29.6%
ASSOC DEG & AQF DIPL	1,238	1,559	1,911	2,419	3,050	3,408	4,318	4,199	3,746	3,654	3,400
domestic total	957	1,199	1,681	2,095	2,740	2,980	3,818	3,752	3,401	3,240	2,937
% domestic female	8.9%	11.0%	10.7%	9.5%	10.3%	n/a	9.0%	9.5%	9.1%	9.5%	9.4%
international total	281	360	230	324	310	428	500	447	345	414	463
% international female	40.6%	50.0%	3.0%	4.0%	3.2%	n/a	24.6%	11.9%	9.0%	6.8%	8.0%
% international	22.7%	23.1%	12.0%	13.4%	10.2%	12.6%	11.6%	10.6%	9.2%	11.3%	13.6%
OTHER UNDERGRADUATE	636	1,405	1,214	1,470	2,082	1,540	1,649	2,609	3,077	3,040	3,463
domestic total	552	658	509	671	971	576	596	1,175	1,206	847	918
% domestic female	18.5%	19.9%	27.7%	26.8%	28.1%	n/a	40.4%	24.0%	18.3%	14.5%	17.0%
international total	84	747	705	799	1,111	1,101	1,053	1,434	1,871	2,193	2,545
% international female	14.3%	25.0%	17.6%	12.6%	11.9%	n/a	n/a	8.5%	9.2%	10.2%	11.3%
% international	13.2%	53.2%	58.1%	54.4%	53.4%	71.5%	63.9%	55.0%	60.8%	72.1%	73.5%
ALL ENROLMENTS	66,165	69,427	73,450	79,091	85,339	88,777	92,059	97,816	102,304	106,210	111,059
domestic total	47,286	49,107	51,182	54,304	57,899	60,251	62,857	66,136	67,671	68,028	67,711
% domestic female	14.5%	14.6%	14.8%	14.7%	15.0%	14.8%	14.5%	14.8%	15.0%	14.9%	15.6%
international total	18,879	20,320	22,268	24,787	27,440	28,526	29,202	31,680	34,633	38,182	43,348
% international female	17.7%	18.8%	18.1%	18.0%	18.3%	18.7%	18.4%	18.4%	18.6%	16.9%	19.8%
% international	28.5%	29.3%	30.3%	31.3%	32.2%	32.1%	31.7%	32.4%	33.9%	35.9%	39.0%

TABLE 4 STUDENT LOAD (EFT) IN ENGINEERING AND RELATED TECHNOLOGIES, 2015-16

DOMESTIC STUDENT LOAD (2016)	Doctor-ates	Masters	other p-grad	Bach-elor	other u-grad	Enab	Non award	TOTAL
Manufacturing Engineering & Technology	51	63	4	832	50	0	1	1,001
Process and Resources Engineering	521	406	97	3,226	99	0	4	4,352
Automotive Engineering & Technology	0	4	0	26	0	0	0	31
Mechanical/Industrial Engineering & Technology	426	424	53	6,346	232	0	4	7,484
Civil Engineering	531	758	66	7,890	232	1	6	9,484
Geomatic Engineering	54	119	43	1,158	137	1	1	1,514
Electrical/Electronic Engineering & Technology	606	585	24	7,142	268	0	10	8,636
Aerospace Engineering & Technology	53	72	155	1,074	70	0	2	1,426
Maritime Engineering & Technology	26	10	5	309	3	0	0	353
Other Engineering & Related Technologies	427	808	99	6,780	364	5	23	8,506
DOMESTIC TOTAL 2016	2,695	3,249	546	34,783	1,455	7	51	42,787
DOMESTIC TOTAL 2015	2,588	3,114	629	35,134	1,521	46	58	43,087
DOMESTIC TOTAL 2014	2,378	2,730	746	34,681	1,609	55	69	42,267
DOMESTIC TOTAL 2013	2,225	2,399	756	33,571	1,608	62	49	40,856
DOMESTIC TOTAL 2012	2,304	2,080	766	31,962	1,563	65	33	38,890
DOMESTIC TOTAL 2011	2,273	1,918	673	30,118	1,376	62	25	36,630

ALL STUDENT LOAD (2016)	Doctor-ates	Masters	other p-grad	Bach-elor	other u-grad	Enab	Non award	TOTAL
Manufacturing Engineering & Technology	134	632	5	1,177	74	0	32	2,054
Process and Resources Engineering	1,377	1,300	124	5,439	173	0	123	8,537
Automotive Engineering & Technology	0	39	0	35	0	0	3	77
Mechanical/Industrial Engineering & Technology	916	1,634	59	9,717	446	0	120	12,891
Civil Engineering	1,304	2,508	80	11,298	340	1	126	15,658
Geomatic Engineering	128	307	51	1,293	149	1	13	1,942
Electrical/Electronic Engineering & Technology	1,427	3,294	42	10,676	449	0	131	16,019
Aerospace Engineering & Technology	72	155	157	1,478	90	0	16	1,969
Maritime Engineering & Technology	51	37	8	565	58	0	3	721
Other Engineering & Related Technologies	1,031	3,358	136	9,150	821	5	156	14,657
ALL STUDENT TOTAL 2016	6,440	13,264	662	50,828	2,600	7	723	74,525
TOTAL (ALL STUDENTS) 2015	6,207	10,931	749	49,765	2,529	46	975	71,201
TOTAL (ALL STUDENTS) 2014	5,904	9,025	876	48,503	2,511	55	1,058	67,931
TOTAL (ALL STUDENTS) 2013	5,640	7,192	914	47,220	2,408	62	395	63,999
TOTAL (ALL STUDENTS) 2012	5,215	5,913	1,033	44,935	2,275	65	141	59,802
TOTAL (ALL STUDENTS) 2011	4,789	5,650	982	42,911	2,089	62	130	56,816

TABLE 5 ENGINEERING COMMENCEMENTS (STUDENTS) 2006 – 2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
DOCTORATES	847	950	1,039	1,390	1,476	1,528	1,629	1,789	1,834	1,870	1,833
domestic number	486	519	498	586	678	621	601	662	673	718	701
% domestic female	22.2%	19.5%	23.7%	24.4%	24.2%	22.7%	27.6%	25.1%	27.2%	25.2%	24.5%
international number	361	431	541	804	798	907	1028	1127	1161	1152	1132
% international female	24.7%	22.0%	27.5%	28.0%	24.8%	27.9%	24.8%	26.4%	28.3%	24.7%	27.7%
% international	42.6%	45.4%	52.1%	57.8%	54.1%	59.4%	63.1%	63.0%	63.3%	61.6%	61.8%
RESEARCH MASTER'S	392	369	320	506	521	451	456	433	469	416	375
domestic number	257	234	187	298	303	219	231	234	258	253	214
% domestic female	17.9%	23.5%	23.5%	17.1%	19.5%	21.9%	24.7%	23.5%	19.4%	19.4%	24.3%
international number	135	135	133	208	218	232	225	199	211	163	161
% international female	24.2%	27.3%	27.2%	30.8%	24.8%	28.9%	28.9%	27.6%	26.1%	26.4%	31.1%
% international	34.4%	36.6%	41.6%	41.1%	41.8%	51.4%	49.3%	46.0%	45.0%	39.2%	42.9%
COURSEWORK MASTER'S	3,238	3,560	3,680	4,549	4,311	3,997	4,448	5,372	6,560	7,564	8,787
domestic number	943	1,032	1,128	1,449	1,541	1,562	1,690	1,780	2,043	2,091	2,023
% domestic female	19.5%	17.2%	18.8%	16.4%	16.7%	17.6%	15.8%	18.7%	19.2%	18.7%	17.5%
international number	2,295	2,528	2,552	3,100	2,770	2,435	2,758	3,592	4,517	5,473	6,764
% international female	15.5%	16.9%	18.3%	16.8%	20.0%	19.4%	18.7%	17.4%	18.6%	20.3%	20.9%
% international	70.9%	71.0%	69.3%	68.1%	64.3%	60.9%	62.0%	66.9%	68.9%	72.4%	77.0%
OTHER POSTGRADUATE	1,322	1,203	1,331	1,103	1,447	1,511	1,448	1,416	1,247	1,021	835
domestic number	1,053	952	1,080	787	1,132	1,101	1,186	1,167	1,118	844	682
% domestic female	18.8%	17.0%	20.0%	17.7%	19.8%	21.4%	18.7%	19.6%	16.5%	18.4%	17.3%
international number	269	251	251	316	315	410	262	249	129	177	153
% international female	16.5%	16.6%	17.7%	13.4%	19.4%	13.2%	16.4%	19.3%	16.3%	21.5%	24.8%
% international	20.3%	20.9%	18.9%	28.6%	21.8%	27.1%	18.1%	17.6%	10.3%	17.3%	18.3%
BACHELORS	14,142	15,340	15,760	17,363	19,167	18,741	18,818	20,234	21,048	21,406	21,484
domestic number	10,288	11,051	11,295	12,052	12,541	13,152	13,595	14,817	15,085	14,896	14,390
% domestic female	13.4%	14.4%	14.1%	14.5%	14.4%	13.9%	13.7%	14.4%	15.1%	15.2%	15.7%
international number	3,854	4,289	4,465	5,311	6,626	5,589	5,186	5,417	5,963	6,510	7,094
% international female	17.4%	17.9%	17.6%	17.4%	15.1%	11.9%	17.1%	18.3%	18.4%	21.0%	19.1%
% international	27.3%	28.0%	28.3%	30.6%	34.6%	29.8%	27.8%	26.8%	28.3%	30.4%	33.0%
ASSOC DEG & ADV DIP	602	686	975	1,111	1,514	1,532	1,959	2,094	1,562	1,374	1,372
domestic number	438	524	842	930	1,357	1,257	1,659	1,890	1,370	1,178	1,136
% domestic female	10.0%	12.4%	9.9%	8.7%	10.0%	8.2%	7.8%	9.3%	8.3%	10.8%	10.1%
international number	164	162	133	181	157	275	300	204	192	196	236
% international female	42.1%	1.9%	3.0%	5.2%	na	7.2%	8.3%	18.6%	4.7%	6.1%	12.7%
% international	27.2%	23.6%	13.6%	16.3%	10.4%	18.0%	15.3%	54.6%	12.3%	14.3%	17.2%
ENABLING & OTHER	553	1,172	786	1,056	859	1,434	1,307	1,841	2,144	1,988	2,249
domestic number	480	688	410	521	798	811	748	836	909	564	655
% domestic female	17.9%	16.3%	26.8%	28.6%	24.4%	45.3%	32.8%	28.1%	19.4%	14.5%	20.0%
international number	73	484	376	535	61	623	559	1,005	1,235	1,424	1,594
% international female	7.6%	21.7%	13.8%	14.0%	12.7%	1.8%	8.8%	8.2%	9.7%	10.5%	12.7%
% international	13.2%	41.3%	47.8%	50.7%	37.6%	43.4%	42.8%	0.0%	57.6%	71.6%	70.9%
ALL COMMENCEMENTS	21,096	22,704	23,591	27,508	28,975	29,199	30,065	33,179	34,864	35,639	36,935
domestic number	13,945	14,312	15,030	16,994	18,352	18,813	19,710	21,386	21,456	20,544	19,801
% domestic female	14.6%	15.0%	15.1%	15.5%	15.8%	15.3%	15.0%	15.6%	15.8%	15.8%	16.1%
international number	7,151	8,392	8,561	10,514	10,623	10,386	10,355	11,793	13,408	15,095	17,134
% international female	18.0%	17.9%	18.3%	17.8%	18.5%	18.1%	17.8%	18.1%	18.4%	19.9%	19.9%
% international	33.9%	37.0%	36.3%	38.2%	36.7%	35.6%	34.4%	35.5%	38.5%	42.4%	46.4%

TABLE 6 PROPORTION OF ALL DOMESTIC COMMENCEMENTS (TO ALL AWARD LEVELS), ENGINEERING & RELATED TECHNOLOGIES AND OTHER AREAS 2006 - 2016

year	Engineering & Related Technologies	% of total	Health	Natural & Physical Science	Information Technology	Law, Business, Society, Creative Arts (composite FoE's)	total commencing award programs
2006	13,931	5.4%	39,283	20,943	8,198	145,742	256,382
2007	15,000	5.5%	43,099	21,076	7,839	151,508	271,743
2008	15,440	5.6%	44,812	20,811	7,470	153,908	276,200
2009	16,994	5.5%	49,217	23,633	8,328	167,817	308,821
2010	18,172	5.5%	54,097	26,619	8,704	175,649	329,248
2011	18,813	5.6%	56,628	28,169	9,263	179,222	338,188
2012	19,710	5.4%	61,864	31,847	10,060	190,917	364,197
2013	21,433	5.6%	66,827	33,163	10,292	201,234	384,251
2014	21,456	5.3%	71,419	34,064	11,187	209,246	401,356
2015	20,544	5.2%	75,170	33,639	11,488	209,164	397,296
2016	19,902	4.9%	80,364	35,682	12,347	208,351	405,085

TABLE 7 UNDERGRADUATE DOMESTIC COMMENCEMENTS, ALL FIELDS OF EDUCATION, 2007-16

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Natural and Physical Sciences	17,714	17,513	19,919	22,820	24,486	27,892	29,017	29,890	29,175	31,127
Information Technology	5,930	5,659	6,264	6,713	7,361	7,942	8,048	9,098	9,504	9,922
Engineering and Rel'd Technologies	12,093	12,326	13,200	14,186	14,706	15,489	17,123	16,949	16,545	16,027
Architecture and Building	5,307	5,406	5,357	5,746	6,116	6,256	6,232	6,054	6,662	7,059
Agriculture, Envir'l and Related Studies	3,459	3,567	3,834	3,946	3,916	3,900	4,073	3,840	3,536	3,652
Health	30,652	31,582	33,947	37,321	38,458	42,224	47,412	50,509	54,166	58,969
Education	21,229	19,753	21,402	22,473	22,572	25,322	25,765	27,076	26,139	24,761
Management and Commerce	37,369	37,604	38,233	38,229	39,650	43,569	45,447	49,695	48,398	47,890
Society and Culture	51,084	51,112	56,255	61,914	62,524	67,458	71,042	71,925	75,422	74,951
Creative Arts	18,413	19,309	22,112	23,100	24,076	25,679	27,504	27,054	27,481	28,351
Food. Hosp' and Personal Services	41	68	62	59	64	47	33	21	16	17
TOTAL	203,291	203,899	220,585	236,507	243,929	265,778	281,696	292,111	297,044	302,726

TABLE 8 BASIS OF ADMISSION INTO BACHELORS DEGREES IN ENGINEERING & RELATED TECHNOLOGIES, 2006 – 2016

	DOMESTIC STUDENTS					INTERNATIONAL STUDENTS				
	Total	Higher Ed complete/incomplete Aus or O/S	TAFE/VET award complete or incomplete	Completion of final year of secondary at school or TAFE (Aus or O/S)	Other	Total	Higher Ed complete/incomplete Aus or O/S	TAFE/VET award complete or incomplete	Completion of final year of secondary at school or TAFE (Aus or O/S)	Other
2006	10,288	1,376	638	6,603	1,671	3,854	1,023	439	1,314	1,088
2007	11,051	1,588	704	7,420	1,339	4,289	1,220	389	1,452	1,228
2008	11,295	1,723	691	7,313	1,568	4,465	1,495	251	1,393	1,326
2009	12,052	1,851	727	8,125	1,349	5,311	1,461	389	1,706	1,755
2010	no data collected									
2011	13,154	2,435	978	8,542	1,181	5,589	1,556	359	1,597	2,077
2012	13,595	2,604	904	8,835	1,252	5,223	1,392	388	1,366	2,077
2013	14,817	2,989	1,184	9,119	1,525	5,417	1,310	438	1,694	1,975
2014	15,085	3,665	1,013	8,791	1,534	5,963	2,005	312	1,666	1,980
2015	14,896	3,357	964	8,686	1,889	6,510	2,085	361	1,894	2,170
2016	14,390	3,323	1,046	8,332	1,689	7,094	2,462	451	2,063	2,118
	AS PERCENTAGES					AS PERCENTAGES				
2006	10,288	13.4%	6.2%	64.2%	16.2%	3,854	26.5%	11.4%	34.1%	28.2%
2007	11,051	14.4%	6.4%	67.1%	12.1%	4,289	28.4%	9.1%	33.9%	28.6%
2008	11,295	15.3%	6.1%	64.7%	13.9%	4,465	33.5%	5.6%	31.2%	29.7%
2009	12,052	15.4%	6.0%	67.4%	11.2%	5,311	27.5%	7.3%	32.1%	33.0%
2010	no data collected									
2011	13,154	18.5%	7.4%	64.9%	9.0%	5,589	27.8%	6.4%	28.6%	37.2%
2012	13,595	19.2%	6.6%	65.0%	9.2%	5,223	26.7%	7.4%	26.2%	39.8%
2013	14,817	20.2%	8.0%	61.5%	10.3%	5,417	24.2%	8.1%	31.3%	36.5%
2014	15,085	24.3%	6.7%	58.3%	10.2%	5,963	33.6%	5.2%	27.9%	33.2%
2015	14,896	22.5%	6.5%	58.3%	12.7%	6,510	32.0%	5.5%	29.1%	33.3%
2016	14,390	23.1%	7.3%	57.9%	11.7%	7,094	34.7%	6.4%	29.1%	29.9%

‘Other’ covers: admission on the basis of ‘mature age special provisions’, ‘professional qualifications’, and ‘other’

TABLE 9 TOP 16 COUNTRIES OF ORIGIN: ONSHORE COMMENCERS IN ENGINEERING & RELATED TECHNOLOGIES, 2015-16

	P/G Research	P/G Course work	Bachelors (inc Hons)	Other	Total	P/G Research	P/G Coursework	Bachelors (inc Hons)	Other	Total	over all rank
2015											
China (excl SARs and Taiwan)	415	2,438	1,640	586	5,079	33.0%	43.9%	35.5%	37.4%	39.1%	1
India	130	1,438	299	104	1,971	10.3%	25.9%	6.5%	6.6%	15.2%	2
Malaysia	29	81	535	56	701	2.3%	1.5%	11.6%	3.6%	5.4%	3
Pakistan	31	315	122	76	544	2.5%	5.7%	2.6%	4.9%	4.2%	4
Viet Nam	58	79	197	76	410	4.6%	1.4%	4.3%	4.9%	3.2%	5
Saudi Arabia	19	119	121	99	358	1.5%	2.1%	2.6%	6.3%	2.8%	6
Sri Lanka	42	44	191	67	344	3.3%	0.8%	4.1%	4.3%	2.6%	7
Indonesia	31	76	123	66	296	2.5%	1.4%	2.7%	4.2%	2.3%	8
Bangladesh	76	64	76	51	267	6.0%	1.2%	1.6%	3.3%	2.1%	9
Hong Kong (SAR of China)	< 5	np	170	63	251			3.7%	4.0%	1.9%	10
Kuwait	0	< 5	184	np	240	0.0%		4.0%		1.8%	11
Iran	127	68	16	12	223	10.1%	1.2%	0.3%	0.8%	1.7%	12
Nepal	8	109	50	28	195	0.6%	2.0%	1.1%	1.8%	1.5%	13
Singapore	< 5	11	135	np	154		0.2%	2.9%		1.2%	14
Iraq	63	31	22	< 5	117	5.0%	0.6%	0.5%		0.9%	15
Thailand	6	31	48	11	96	0.5%	0.6%	1.0%	0.7%	0.7%	16
All other Countries	217	628	685	212	1,742	17.2%	11.3%	14.8%	13.5%	13.4%	
Total	1,258	5,549	4,614	1,567	12,988						
2016											
China (excludes SARs and Taiwan Province)	3,582		1,992	667	6,241	44.4%		39.3%	38.2%	42.0%	1
India	1,977		371	89	2,437	24.5%		7.3%	5.1%	16.4%	2
Malaysia	94		528	68	690	1.2%		10.4%	3.9%	4.6%	3
Pakistan	384		159	90	633	4.8%		3.1%	5.2%	4.3%	4
Sri Lanka	94		244	98	436	1.2%		4.8%	5.6%	2.9%	5
Viet Nam	125		182		405	1.6%		3.6%	5.6%	2.7%	6
Bangladesh	169		118	< 58	343	2.1%		2.3%	< 3.6%	2.3%	7
Saudi Arabia	121		106	77	304	1.5%		2.1%	4.4%	2.0%	8
Indonesia	107		110	61	278	1.3%		2.2%	3.5%	1.9%	9
Nepal	172		66	< 37	273	2.1%		1.3%	< 3.0%	1.8%	10
Hong Kong (SAR of China)	64		141	< 57	261	0.8%		2.8%	< 3.6%	1.8%	11
Iran	162		15	< 9	182	2.0%		0.3%	< 0.8%	1.2%	12
Singapore	15		129	< 35	178	0.2%		2.5%	< 2.3%	1.2%	13
Kuwait	5		122	22	149	0.1%		2.4%	1.3%	1.0%	14
Thailand	40		60	< 11	110	0.5%		1.2%	< 0.9%	0.7%	15
Iraq	45		< 5		46	0.6%		< 0.2%	0.0%	0.3%	16
All other Countries	903		728	280	1,911	11.2%		14.4%	16.0%	12.8%	
Total	8,059		5,072	1,746	14,877						

TABLE 10 INDIGENOUS COMMENCEMENTS AND COMPLETIONS IN ENGINEERING & RELATED TECHNOLOGIES, 2014-16

Commencements

	P/G by Research	P/G C'rsewk	Bach. (inc Hons)	Other	Total		
	Persons	Persons	Persons	Persons	Male	Female	Persons
2014							
ACT	0	0	<5	0	<5	0	<5
NSW	<5	8	40	<5	46	5	51
NT	0	0	6	<5	<5	<5	7
QLD	0	<5	41	14	50	7	57
SA	0	0	9	<5	np	<5	12
TAS	0	<5	<5	0	<5	0	<5
VIC	0	<5	6	<5	10	0	10
WA	0	0	7	5	np	<5	12
Total	<5	14	115	25	136	20	156
2015							
ACT	0	0	0	0	0	0	0
NSW	<5	<5	28	<5	np	<5	32
NT	0	0	<5	<5	np	<5	7
QLD	<5	<5	45	14	52	12	64
SA	0	0	7	<5	8	0	8
TAS	0	<5	11	0	12	0	12
VIC	0	<5	7	<5	np	<5	15
WA	0	<5	6	0	np	<5	7
Total	<5	12	108	23	124	21	145
2016							
ACT	0		<5	0	<5	0	<5
NSW	<5		38	<<10	37	6	43
NT	0		<5	<<<15	<5	<5	6
QLD	<5		42	<5	47	9	56
SA	<5		<5	<5	<5	0	<5
TAS	<5		<5	0	<5	<5	<5
VIC	<5		7	<<<15	10	<5	11
WA	<5		8	0	11	0	11
Total	12		102	20	115	19	134

Completions

	P/G by Research	P/G C'rsewk	Bach. (inc Hons)	Other	Total		
	Persons	Persons	Persons	Persons	Male	Female	Persons
2014							
ACT	0	0	0	0	0	0	0
NSW	0	5	10	0	np	<5	15
NT	0	0	<5	<5	<5	0	<5
QLD	0	<5	15	5	18	5	23
SA	0	0	<5	<5	<5	0	<5
TAS	0	0	<5	0	<5	0	<5
VIC	0	0	<5	0	<5	<5	<5
WA	0	0	<5	0	<5	0	<5
Total	0	8	37	7	45	7	52
2015							
ACT	<5	0	0	0	0	<5	<5
NSW	0	5	12	0	np	<5	17
NT	0	0	0	<5	<5	0	<5
QLD	0	<5	13	0	np	<5	16
SA	0	0	<5	0	<5	0	<5
TAS	0	<5	<5	0	<5	0	<5
VIC	<5	<5	<5	<5	np	<5	7
WA	0	0	<5	0	<5	0	<5
Total	<5	11	34	<5	43	6	49
2016							
ACT	0		0	0	0	0	0
NSW	5		14	<5	19	<5	20
NT	0		0	<5	<5	0	<5
QLD	0		17	8	22	3	25
SA	0		<5	0	<5	0	<5
TAS	0		<5	0	<5	0	<5
VIC	<5		<5	0	<5	0	<5
WA	<5		0	0	<5	0	<5
Total	7		38	10	51	4	55

TABLE 11 ANNUAL SUCCESS RATES FOR BACHELORS DEGREE STUDENTS IN ENGINEERING & RELATED TECHNOLOGIES, 2006 – 2016

		Domestic Students								Overseas Students							
		Males				Females				Males				Females			
		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time	
	Number	Success, %	Number	Success, %	Number	Success, %	Number	Success, %	Number	Success, %	Number	Success, %	Number	Success, %	Number	Success, %	
2006	Commencing	8,163	83.2	923	69.4	1,315	86.4	101	70.4	2,802	83.0	442	77.2	618	89.4	60	76.5
2006	Overall	26,952	86.6	5,870	74.8	4,418	90.5	717	78.9	8,463	85.6	1,547	80.7	1,906	91.0	231	79.6
2007	Commencing	8,639	83.6	1,008	68.5	1,538	87.9	103	68.1	3,055	83.6	503	74.6	709	90.0	68	80.0
2007	Overall	28,158	87.0	5,924	74.2	4,676	90.4	702	76.2	8,887	85.8	1,680	79.0	2,054	90.7	246	80.5
2008	Commencing	8,900	84.1	991	69.8	1,503	87.3	138	65.8	3,137	85.6	588	82.6	719	91.6	79	83.2
2008	Overall	29,559	88.0	5,846	75.0	4,912	91.0	733	76.0	9,672	87.0	1,824	82.0	2,186	92.0	281	81.0
2009	Commencing	9,481	84.6	994	71.1	1,682	88.1	114	69.0	3,952	86.5	489	84.8	864	89.8	70	84.0
2009	Overall	31,167	87.5	6,046	75.2	5,625	90.8	682	76.2	10,962	87.6	1,637	83.5	2,424	90.1	247	86.3
2010	Commencing	nd	84.0	nd	68.0	nd	88.0	nd	75.0	nd	85.0	nd	82.0	nd	92.0	nd	71.0
2010	Overall	nd	87.0	nd	75.0	nd	90.0	nd	78.0	nd	88.0	nd	82.0	nd	92.0	nd	83.0
2011	Commencing	10,276	83.8	1,021	71.0	1,662	87.5	139	72.6	4,125	83.4	517	78.1	943	89.8	33	69.3
2011	Overall	33,421	86.9	6,530	74.6	5,605	90.6	793	77.7	13,102	87.0	1,665	81.0	2,961	91.4	176	82.7
2012	Commencing	10,720	83.9	1,185	67.2	1,740	86.5	161	69.9	3,953	83.5	427	77.4	860	89.1	37	71.0
2012	Overall	34,698	87.0	7,062	74.6	5,708	90.2	816	77.5	11,328	86.9	1,693.0	79.5	2,958	91.1	212	80.1
2013	Commencing	nd	83.6	nd	69.6	nd	87.8	nd	70.7	nd	83.7	nd	79.0	nd	86.3	nd	nd
2013	Overall	nd	86.6	nd	74.7	nd	90.2	nd	80.3	nd	86.7	nd	77.1	nd	91.6	nd	81.2
2014	Commencing	nd	83.3	nd	72.0	nd	87.5	nd	73.0	nd	83.1	nd	78.7	nd	89.6	nd	71.3
2014	Overall	nd	86.7	nd	74.3	nd	89.8	nd	79.3	nd	85.9	nd	78.7	nd	91.4	nd	83.6
2015	Commencing	nd	83.9	nd	69.9	nd	87.8	nd	76.7	nd	83.4	nd	75.2	nd	89.4	nd	81.7
2015	Overall	nd	87.2	nd	75.1	nd	90.4	nd	78.7	nd	86.2	nd	76.9	nd	91.2	nd	82.9
2016	Commencing	nd	84.4	nd	68.3	nd	87.1	nd	71.2	nd	83.8	nd	80.5	nd	90.5	nd	77.7
2016	Overall	nd	86.9	nd	73.8	nd	89.2	nd	75.7	nd	86.1	nd	78.8	nd	90.9	nd	74.6

The success rate is the proportion of course units passed of those in which a student is enrolled for the year.

TABLE 12 ANNUAL RETENTION RATES IN INSTITUTION FOR BACHELORS DEGREE STUDENTS IN ENGINEERING & RELATED TECHNOLOGIES, 2005 – 2015

		Domestic Students								Overseas Students							
		Males				Females				Males				Females			
		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time	
		Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %
2005	Commencing	8,058	88.0	1,007	67.4	1,195	89.8	120	70.0	2,816	90.5	390	73.3	650	91.4	54	83.3
2005	Overall	23,337	88.7	4,692	69.1	3,731	91.5	557	71.5	6,969	89.6	988	68.0	1,539	90.9	128	71.9
2006	Commencing	8,356	87.3	918	69.8	1,347	88.3	102	73.5	2,822	90.4	433	78.1	620	92.6	59	81.4
2006	Overall	23,676	87.9	4,658	69.4	3,701	89.7	521	70.3	7,068	89.2	1,115	67.1	1,563	91.7	158	69.0
2007	Commencing	8,855	86.6	1,013	69.6	1,588	90.2	105	67.6	3,097	90.4	503	68.0	702	92.3	71	67.6
2007	Overall	25,715	88.1	4,853	70.1	4,239	91.6	524	72.9	7,781	88.6	1,283	70.0	1,744	90.7	186	66.7
2008	Commencing	8,714	89.3	945	69.4	1,450	89.5	129	64.3	3,064	91.7	582	81.1	686	94.2	79	78.5
2008	Overall	26,101	90.4	4,626	72.2	4,240	91.8	555	69.4	8,214	89.2	1,335	72.9	1,752	93.2	193	74.1
2009	Commencing	nd	88.6	nd	64.3	nd	89.5	nd	66.1	nd	93.7	nd	83.2	nd	94.4	nd	69.1
2009	Overall	nd	89.6	nd	69.1	nd	91.4	nd	70.5	nd	91.2	nd	72.6	nd	93.4	nd	70.6
2010	Commencing	9,678	88.1	973	69.2	1,657	90.6	115	80.0	4,069	92.9	487	83.6	899	94.7	73	79.5
2010	Overall	29,085	89.1	4,882	69.5	4,840	91.5	527	72.1	10,633	89.7	1,154	71.3	2,285	92.6	178	66.9
2011	Commencing	10,226	88.9	1,011	69.6	1,650	90.8	132	68.2	4,032	91.3	514	77.6	916	92.8	33	60.6
2011	Overall	29,967	89.4	5,270	70.7	4,872	91.3	599	69.9	11,170	89.9	1,166	69.5	2,475	91.8	96	58.3
2012	Commencing	nd	88.7	nd	66.4	nd	90.2	nd	62.8	nd	92.2	nd	82.7	nd	94.5	nd	67.6
2012	Overall	nd	89.1	nd	69.3	nd	91.5	nd	68.0	nd	91.5	nd	74.4	nd	94.4	nd	65.1
2013	Commencing	nd	87.6	nd	65.7	nd	89.1	nd	66.5	nd	91.8	nd	84.0	nd	94.5	nd	76.7
2013	Overall	nd	88.6	nd	70.3	nd	90.2	nd	70.1	nd	89.9	nd	71.7	nd	93.8	nd	71.5
2014	Commencing	nd	87.8	nd	68.0	nd	90.7	nd	66.7	nd	91.9	nd	87.3	nd	94.8	nd	87.0
2014	Overall	nd	89.0	nd	68.2	nd	92.1	nd	68.6	nd	90.3	nd	72.5	nd	93.9	nd	71.1
2015	Commencing	nd	87.8	nd	67.0	nd	88.9	nd	67.8	nd	88.2	nd	83.9	nd	92.6	nd	87.8
2015	Overall	nd	89.9	nd	72.1	nd	91.4	nd	73.5	nd	88.6	nd	72.4	nd	92.8	nd	78.0

Retention rate is the proportion of students who, in the following year, graduated or returned to the same university.

TABLE 13 ANNUAL RETENTION RATES IN ENGINEERING FOR BACHELORS DEGREE STUDENTS IN ENGINEERING & RELATED TECHNOLOGIES, 2005 – 2015

		Domestic Students								Overseas Students							
		Males				Females				Males				Females			
		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time		Full-time		Part-time	
		Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %	Number	Retention %
2005	Commencing	7,648	82.8	960	62.4	1,129	81.6	113	58.4	2,684	88.2	385	72.7	603	88.7	53	83.0
2005	Overall	23,332	85.8	4,692	66.2	3,730	87.0	557	65.9	6,968	87.5	988	67.2	1,539	89.2	128	71.9
2006	Commencing	7,988	84.2	882	65.0	1,270	83.0	95	63.2	2,733	87.8	427	77.1	603	89.9	57	79.0
2006	Overall	23,668	86.7	4,658	66.9	3,701	87.7	521	66.8	7,067	87.6	1,115	66.9	1,561	89.9	158	67.7
2007	Commencing	8,451	83.6	969	64.2	1,481	84.1	93	54.8	2,999	89.7	501	74.1	682	90.5	68	80.9
2007	Overall	24,841	86.3	4,717	66.7	4,034	87.8	502	68.1	7,600	88.1	1,274	72.4	1,704	89.0	183	72.1
2008	Commencing	8,714	84.7	945	66.8	1,450	82.1	129	60.5	3,064	89.9	582	80.9	686	91.0	79	78.5
2008	Overall	26,101	87.2	4,626	69.9	4,240	87.2	555	64.5	8,214	87.5	1,335	72.5	1,752	90.9	193	73.1
2009	Commencing	nd	85.0	nd	60.3	nd	83.8	nd	57.8	nd	92.7	nd	82.5	nd	92.1	nd	67.7
2009	Overall	nd	87.2	nd	67.0	nd	87.7	nd	65.6	nd	90.5	nd	72.4	nd	92.2	nd	70.0
2010	Commencing	9,678	83.9	973	66.7	1,657	84.6	115	72.2	4,069	92.0	487	83.6	899	93.3	73	78.1
2010	Overall	29,085	86.7	4,882	67.9	4,840	87.5	527	67.0	10,633	88.8	1,154	70.8	2,285	91.6	178	66.3
2011	Commencing	10,226	83.5	1,011	66.1	1,650	82.5	132	62.1	4,032	89.9	514	77.2	916	92.0	33	57.6
2011	Overall	29,967	86.4	5,270	68.5	4,872	87.0	599	66.9	11,170	88.9	1,166	69.0	2,475	90.9	96	57.3
2012	Commencing	nd	84.5	nd	63.9	nd	84.8	nd	58.3	nd	90.7	nd	82.2	nd	93.1	nd	67.6
2012	Overall	nd	86.4	nd	67.2	nd	88.1	nd	64.6	nd	90.4	nd	73.8	nd	93.3	nd	64.3
2013	Commencing	nd	83.2	nd	62.1	nd	83.5	nd	62.2	nd	90.6	nd	84.0	nd	92.6	nd	76.7
2013	Overall	nd	85.7	nd	68.1	nd	86.3	nd	66.8	nd	88.8	nd	71.0	nd	92.4	nd	70.0
2014	Commencing	nd	83.5	nd	65.9	nd	85.3	nd	65.1	nd	90.9	nd	86.7	nd	92.9	nd	85.2
2014	Overall	nd	86.2	nd	65.9	nd	88.2	nd	64.0	nd	89.5	nd	71.6	nd	92.8	nd	69.8
2015	Commencing	nd	92.5	nd	73.7	nd	95.8	nd	76.2	nd	92.0	nd	85.0	nd	94.8	nd	93.9
2015	Overall	nd	93.2	nd	76.4	nd	96.3	nd	77.3	nd	92.2	nd	75.3	nd	95.0	nd	79.9

Up to 2014, the Retention rate is the proportion of students who, in the following year, graduated or returned to the same university to study engineering. For 2015, the rate was adjusted to allow for re-enrolment in engineering at another university.

TABLE 14 GRADUATE EMPLOYMENT AND SATISFACTION DATA

(a) Employment status, survey years 2016, 2017

Year of Survey (previous year graduates)	% in full-time study	% in FT work, available for FT work	% in work, of all available for any work	% in PT work of all employed	% in PT work seeking more hours	% in PT work not seeking more hours	% of FT employed reporting skills not fully used	% of all employed reporting skills not fully used	% of FT employed reporting skills not fully used because of lack of jobs in area of expertise	% of all employed reporting skills not fully used because of lack of jobs in area of expertise
2016										
U/G Engineering	13.6	76.4	83.9	16.6	10.2	4.8	25.5	33.6	36.5	37
ALL U/G	21.8	70.9	86.4	38.4	20.5	14.1	29.1	42.1	26.8	25.8
P/G C'swkEngin'g	nd	83.6	88.1	nd	nd	nd	32.5	34.5	31.6	34.7
ALL P/G Coursew'k	nd	85.1	92.4	nd	nd	nd	35	43.1	25.5	25.4
P/G Res'ch Engin'g	nd	75.5	84.2	nd	nd	nd	23.9	27.4	nd	nd
All Research	nd	80.1	90.3	nd	nd	nd	27.1	30.7	nd	nd
2017										
U/G Engineering	14.2	79.4	86.5	18	9.9	6	24.3	33.7	29.8	31.0
ALL U/G	20.7	71.8	86.5	37.9	19.7	14.2	28.2	41.1	27.4	25.2
P/G C'swkEngin'g	nd	86.0	88.9	nd	nd	nd	35.1	37.8	27.1	30.8
ALL P/G Coursew'k	nd	86.1	92.6	nd	nd	nd	28.1	30.9	25.3	25.5
P/G Res'ch Engin'g	na	74.3	86.1	nd	nd	nd	22.1	26.2	nd	nd
All Research	na	80.4	90.6	nd	nd	nd	25.2	29.9	nd	nd

(b) % in full-time work, of those available for full-time work

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Aeronautical Eng	89.5	78.4	73.9	74.7	81.4	69.9	58.2	60.1	68.5	70.1
Chemical Eng	90.6	82.8	67.7	71.7	77.5	73.6	61.6	63.4	69.6	74.4
Mining Eng	99.9	92.3	90.5	97.3	93.9	96	70.5	76.3	81.7	84.3
Civil Eng	97.3	94.4	92.5	89.9	90.5	85.4	74.9	77.7	81.7	84.3
Electrical Eng	91.9	84.5	76.9	85.9	88.0	86.0	78.0	78.1	75.4	76.1
Electron/Comp Eng	89.9	78.3	76.9	82.2	79.5	80.9	74.9	78.5	72.3	76.5
Mechanical Eng	93.9	86.2	80.5	87.1	88.4	82.4	82.8	72.2	72.3	76.5
Other Eng	92.4	88.9	84.9	82.3	85.4	81.9	70.5	70.9	79.2	82.8
All engineering	92.9	87.2	82.7	84.9	86.6	82.6	72.2	73.9	76.4	79.4
All areas	85.2	79.2	76.2	76.3	76.1	71.3	68.1	68.8	70.9	71.8

(c) Graduate salaries (medians) for full-time work

Course level	2015		2016		2017	
	male	female	male	female	male	female
U/G Engineering	\$ 60,000	\$ 63,000	\$ 62,600	\$ 62,300	\$ 63,500	\$ 65,000
ALL U/G	\$ 55,000	\$ 53,000	\$ 60,000	\$ 56,400	\$ 60,100	\$ 59,000
P/G Engineering	\$ 100,000	\$ 80,000	\$ 98,600	\$ 85,000	\$ 90,000	\$ 75,000
ALL P/G	\$ 90,000	\$ 73,000	\$ 90,000	\$ 75,700	\$ 91,000	\$ 76,000
P/G research	\$ 82,800	\$ 76,700	\$ 85,000	\$ 82,000	\$ 87,700	\$ 83,400
All research	\$ 84,000	\$ 80,300	\$ 88,300	\$ 83,300	\$ 89,800	\$ 86,000

Note: undergraduate figures are for graduates in first full time employment, age less than 25

(d) Median salary comparisons for Bachelors Graduates, surveys 2012-17

	2012	2013	2014	2015	2016	2017
Dentistry	\$ 80,000	\$ 80,000	\$ 75,000	\$ 80,000	\$ 83,500	\$ 80,000
Optometry	\$ 79,000	\$ 70,000	\$ 70,000	\$ 80,000	nd	nd
Medicine	\$ 60,000	\$ 60,000	\$ 60,000	\$ 65,000	\$ 69,200	\$ 70,300
Engineering	\$ 63,000	\$ 64,000	\$ 62,000	\$ 62,000	\$ 62,600	\$ 64,000
Earth Sciences	\$ 73,000	\$ 60,000	\$ 60,000	\$ 60,000	nd	nd
Computer Science	\$ 53,000	\$ 52,500	\$ 55,000	\$ 54,000	\$ 60,000	\$ 59,900
Mathematics	\$ 55,000	\$ 57,000	\$ 60,000	\$ 60,000	\$ 55,200	\$ 57,500
Physical Science	\$ 55,000	\$ 55,000	\$ 55,000	\$ 50,000		

TABLE 15 GRADUATE SATISFACTION AND EMPLOYER SATISFACTION

(a) **Graduate satisfaction, surveys 2016-17.** Percentages of graduates expressing agreement or strong agreement with a relevant satisfaction statement

	Overall satisfact'n	Good teaching	Generic skills	Super-vision	Intellect'l climate	Skills develop't	Infra-structre	Thesis examin'n	Goals & expect's
2016									
U/G Engineering	75.4	49.1	84.0						
Science & Mathematics	84.0	66.7	84.9						
Computing & Info Systems	75.9	58.6	77.5						
Pharmacy	86.6	67.5	85.1						
Business & Management	79.0	56.6	79.4						
U/G All areas	80.6	63.0	82.1						
P/G Coursework Engineering	76.9	59.6	80.0						
P/G Coursework All areas	82.5	68.3	78.3						
P/G Research Engineering	86.0			80.7	65.6	93.5	84.6	81.9	91.0
P/G Research All areas	85.5			81.2	60.7	94.1	75.6	77.9	91.6
2017									
U/G Engineering	73.6	47.6	82.4						
Science & Mathematics	83.4	67.4	85.2						
Computing & Info Systems	74.8	58.9	77.2						
Pharmacy	83.4	63.4	83.6						
Business & Management	77.8	58.3	78.7						
U/G All areas	79.4	63.0	81.5						
P/G Coursework Engineering	78.8	62.9	82.1						
P/G Coursework All areas	81.9	69.0	78.2						
P/G Research Engineering	86.5			83.6	68.5	94.5	82.8	82.2	93.1
P/G Research All areas	84.4			81.5	61.3	94.3	77.0	79.4	91.6

(b) **Employer Satisfaction Survey – skills areas, 2017.** Percentages of employers expressing agreement or strong agreement with a relevant statement on graduate skills.

	Foundation	Adaptive	Collab-orative	Technical	Employ-ability	Overall satisfact'n
2016 All areas	92.0	88.4	84.6	92.2	83.8	84.3
2017						
Engineering & Related Technologies	95.6	90.8	88.7	95.7	85.0	89.9
Natural & Physical Sciences	94.6	89.3	88.0	94.5	85.7	80.1
Information Technology	95.1	91.1	90.4	95.5	85.7	82.1
Health	93.6	88.8	86.3	94.6	84.3	88.6
Management & Commerce	92.5	91.0	84.7	91.7	86.1	79.8
All areas	93.4	90.1	85.9	93.3	85.0	83.6

(c) **Employer Satisfaction Survey – importance ratings by graduates and their supervisors, 2017**

	% of respondents rating qualification 'important' or 'very important'		% of respondents rating 'well' or 'very well' the extent to which qualification prepared graduates	
	Graduates	Supervisors	Graduates	Supervisors
Engineering & Related Technologies	59.6	70.9	89.3	94.9
Natural & Physical Sciences	50.2	45.2	85.4	90.1
Information Technology	41.0	34.5	84.5	93.0
Health	72.6	78.9	90.8	94.0
Management & Commerce	40.2	47.6	89.6	92.7
All areas	56.3	63.8	88.2	93.2

TABLE 16 STAFF (FTE) IN ENGINEERING & RELATED TECHNOLOGIES, 2006-16 (not including casual staffing)

staff groups	2006	2007	2008	2009	2010	2011	2012	2013	2014*	2015	2016
academics, male											
teaching-only	41	22	38	51	69	100	98	76	67	88	127
research –only	915	978	1,010	1,082	1,051	1,194	1,194	1,295	1,279	1,417	1,344
teaching & research	1,478	1,524	1,529	1,611	1,602	1,747	1,759	1,755	1,824	1,919	1,907
sub-total, male	2,434	2,524	2,577	2,744	2,722	3,040	3,052	3,126	3,170	3,424	3,378
academics, female											
teaching-only	1	2	3	9	13	16	20	18	17	24	33
research –only	225	256	262	315	333	387	383	399	371	399	360
teaching & research	171	170	181	218	236	252	248	257	288	320	328
sub-total, female	397	428	446	543	621	656	652	675	676	743	721
total academics	2,831	2,952	3,023	3,287	3,343	3,696	3,704	3,801	3,846	4,167	4,099
% research-only	40.3%	41.8%	42.1%	42.5%	41.4%	42.8%	42.6%	44.6%	42.9%	43.6%	41.6%
% female	14.0%	14.5%	14.8%	16.5%	18.6%	17.7%	17.6%	17.8%	17.6%	17.8%	17.6%
total teaching	1,691	1,718	1,751	1,889	1,920	2,115	2,125	2,106	2,196	2,351	2,395

FTE by academic position	>C	C	B	< B	other
Men, 2013	907	692	796	553	178
Women, 2013	104	104	204	169	95
Men, 2014	951	675	826	537	184
Women, 2014	115	111	201	156	85
Men, 2015	1031	751	908	636	99
Women, 2015	127	132	212	201	61
Men, 2016	1078	735	867	618	80
Women, 2016	145	132	198	191	56

Note: Seven ACED member universities did not provide staffing data for 2015 – see Table 17

TABLE 17 STUDENT AND STAFF SUMMARY DATA FOR ACED MEMBERS, 2016

University	commencing students			completions			total enrolled students			Load EFTSL	Staff (FTE - non-casual)			
	dom	intern'l	total	dom	intern'l	total	dom	intern'l	total		T- only	R- only	T & R	Total
Charles Sturt University	49		49	31	1	32	63	1	64	62	nd	nd	nd	nd
Macquarie University	283	166	449	23	13	36	702	253	955	555	< 5	7	< 21	<< 26
Southern Cross Uni	103		103	18		18	178		178	109	nd	nd	nd	nd
Uni of Newcastle	515	190	705	280	129	409	2,006	677	2,683	1,706	< 5	100	68	< 173
University of Sydney	882	1,253	2135	577	653	1,230	3,383	2,891	6,274	4,631	< 5	90	99	< 194
UNSW (inc Canberra)	2,307	2,294	4601	1,325	1,118	2,443	7,809	5,300	13,109	7,948	7	198	353	558
Uni of Tech Sydney	897	994	1891	365	499	864	3,616	2,149	5,765	4,428	< 5	76	124	< 205
Uni of Wollongong	488	536	1024	336	269	605	1,850	1,332	3,182	2,271	0	120	85	205
Western Sydney Uni	705	197	902	251	63	314	1,770	398	2,168	1,755	<<10	<<10	96	<< 116
Deakin University	300	398	698	128	257	385	1,254	1,022	2,276	1,496	6	< 14	< 38	<< 58
Fed Uni Australia	134	35	169	91	24	115	443	99	542	273	nd	nd	nd	nd
La Trobe University	100	106	206	43	114	157	323	336	659	436	nd	nd	nd	nd
Monash University	873	1,142	2015	563	584	1,147	3,860	3,536	7,396	4,907	0	82	121	203
RMIT University	1,819	1,456	3275	1,066	845	1,911	5,398	3,780	9,178	6,141	0	74	156	230
Swinburne U of Tech	863	1,129	1992	484	635	1,119	3,034	2,994	6,028	4,264	< 10	39	81	< 130
Uni of Melbourne	469	977	1446	420	588	1,008	1,326	2,206	3,532	3,451	< 13	131	90	< 234
Victoria University	340	159	499	176	66	242	804	430	1,234	865	< 24	6	37	< 67
CQ University	364	46	410	228	13	241	1,122	55	1,177	664	nd	nd	nd	nd
Griffith University	598	246	844	376	239	615	1,873	810	2,683	1,689	< 5	< 18	56	<< 79
James Cook University	158	15	173	63	6	69	578	51	629	470	0	0	8	8
Queensland U of Tech	1,194	326	1520	602	185	787	3,971	897	4,868	3,063	< 5	72	87	< 164
Uni of Queensland	994	499	1493	743	345	1,088	4,342	1,541	5,883	4,196	< 13	376	147	< 536
Uni of S Queensland	1,040	194	1234	530	79	609	3,560	497	4,057	1,766	< 5	< 5	71	<< 81
Uni of Sunshine Coast	124	11	135	57	3	60	409	22	431	221	nd	nd	nd	nd
Curtin Uni of Techy	865	1,015	1880	606	722	1,328	3,448	3,332	6,780	4,755	< 25	71	100	< 196
Edith Cowan Uni	239	491	730	110	149	259	747	1,090	1,837	1,051	nd	nd	nd	nd
Murdoch University	170	47	217	85	48	133	507	168	675	338	<<10	0	< 19	<<< 29
Uni of W Australia	477	290	767	399	176	575	1,323	662	1,985	2,011	<< 0	70	58	<< 138
Flinders University	219	82	301	64	41	105	660	190	850	592	<<10	< 16	42	<<< 68
Uni of Adelaide	668	449	1117	498	349	847	2,716	1,423	4,139	2,794	12	54	< 86	< 152
Uni of South Australia	434	315	749	337	367	704	1,396	1,086	2,482	1,630	13	29	63	105
Uni Tas'ia (inc. AMC)	358	243	601	236	158	394	1,089	631	1,720	1,253	< 27	6	< 47	<< 80
Charles Darwin Uni	128	96	224	34	35	69	358	224	582	329	< 5	<< 0	< 23	<<< 38
Aust'n National Uni	171	244	415	124	163	287	715	643	1,358	876	0	54	57	111
University of Canberra	42	9	51	7	6	13	83	17	100	83	nd	nd	nd	nd
TOTAL 2016	19,370	15,650	35020	11,276	8,942	20,218	66,716	40,743	107,459	73,138	160	1,704	2,235	4,099
TOTAL 2015	19,976	13,678	33,654	11,281	7,764	19,045	66,437	35,713	102,150	69,906	113	1,816	2,238	4,167
TOTAL 2014	20,790	12,136	32,926	10,789	7,743	18,532	66,229	32,985	98,895	66,819	84	1,650	2,196	3,846
TOTAL 2013	20,616	10,720	31,336	10,231	7,414	17,645	64,797	30,167	94,964	63,171	94	1,694	2,031	3,830
TOTAL 2012	18,396	9,730	28,126	9,271	6,846	16,117	59,385	27,354	86,739	55,523	118	1,577	2,007	3,702
% change 2015 to 2016	-3.0	14.4	4.1	-0.04	15.1	6.16	0.42	14.1	5.20	4.62	41.6	6.17	0.13	1.63

Notes

1. Student data for FoE3 from the Higher Education Statistics ucube website
2. FoE3 includes surveying and civil aviation, and may exclude software engineering, if the university classifies the latter in IT.
3. Staff data is from DET HEd Statistics Unit, purchased by ACED, underestimates totals due to no data (nd) being recorded for some providers.
4. The number of '< 5' entries in component data are indicated. (Thus << 10 is a number in the range 2 - 8.)
5. UNSW Canberra is an additional member of ACED.