

EDUCATION, SCIENCE AND TRAINING

SENATE LEGISLATION COMMITTEE - QUESTIONS ON NOTICE 2005-2006 SUPPLEMENTARY ESTIMATES HEARING

Outcome: 2

Output Group: 2.4 – Funding for Higher Education

DEST Question No. E684_06

Senator Wong provided in writing.

Question:

- a) Please provide the number of students doing Science, Maths and Engineering courses at each university and state since 1996?
- b) Please provide a break down by which science and engineering courses (e.g. biology, chemistry, mechanical engineering etc)?
- c) Please include separately how many students did advanced mathematics courses each year if possible.

Answer:

Science, Mathematics and Engineering Course

- a) See Attachment 1
- b) See attachment 2
- c) See attachment 3

Students, Selected Higher Education Statistics (DEST)

Table: DEST Question No. E684_06, Number of Students in Science, Maths and Engineering(a) courses, 1996-2004(b)(c)

State and Institution		Enrolments as at 31 March					Full Year enrolments			
		1996	1997	1998	1999	2000	2001	2002	2003	2004
New South Wales	Avondale College	44	29	29	30	44	54	66	53	52
	Charles Sturt University	1,949	2,083	2,320	2,638	3,034	4,253	4,426	4,566	4,428
	Macquarie University	3,494	3,573	3,344	3,564	3,523	3,496	3,318	3,396	3,301
	Southern Cross University	1,112	1,274	1,198	1,271	1,364	766	884	868	778
	The University of New England	1,455	1,487	1,607	1,615	1,548	1,386	1,380	1,329	1,571
	The University of New South Wales	9,128	8,976	8,916	9,046	10,022	12,860	13,529	13,677	13,007
	The University of Newcastle	3,517	3,750	3,852	3,984	4,025	3,891	4,434	4,691	4,787
	The University of Sydney	5,551	5,906	6,194	6,560	6,872	8,196	9,035	9,461	9,321
	University of Technology, Sydney	6,350	6,508	6,636	6,708	6,939	7,849	8,157	8,389	8,381
	University of Western Sydney	4,165	4,425	4,735	4,958	4,837	6,029	5,980	6,229	5,674
	University of Wollongong	4,319	4,286	3,975	3,957	4,001	5,673	6,790	6,953	6,331
	State Sub-total	41,084	42,297	42,806	44,331	46,209	54,453	57,999	59,612	57,631
Victoria	Deakin University	4,475	5,366	5,325	5,296	5,178	4,549	4,705	5,162	5,160
	La Trobe University	3,408	3,650	3,715	3,614	3,566	3,424	3,636	3,857	3,966
	Monash University	10,529	11,343	11,283	10,993	11,045	15,783	17,095	17,345	17,619
	Royal Melbourne Institute of	7,883	8,270	8,338	8,853	9,524	11,791	11,684	11,495	11,391
	Swinburne University of Technology	4,129	4,797	4,751	4,918	5,560	6,849	7,063	7,281	6,848
	The University of Melbourne	7,476	8,912	9,346	9,782	9,956	10,650	11,123	11,144	11,737
	University of Ballarat	1,221	1,184	1,137	1,169	1,105	1,333	1,529	1,805	3,009
	Victoria University	4,218	4,506	5,030	4,815	4,588	4,861	4,994	5,065	4,550
	State Sub-total	43,339	48,028	48,925	49,440	50,522	59,240	61,829	63,154	64,280
Queensland	Bond University	0	0	0	0	0	13	10	143	449
	Central Queensland University	3,153	3,371	3,494	3,501	3,632	6,758	7,740	6,648	6,323
	Griffith University	3,367	3,666	3,728	4,267	4,598	4,502	4,652	4,670	4,727
	James Cook University	1,993	2,037	2,260	2,611	2,673	2,948	3,031	2,741	2,902
	Queensland University of Technology	6,051	6,614	6,662	6,536	6,916	8,906	9,395	9,454	9,199
	The University of Queensland	6,688	7,051	7,124	7,619	7,911	8,249	8,731	8,923	8,953
	University of Southern Queensland	3,289	3,276	3,332	3,370	3,309	6,379	6,776	6,695	6,757
	University of the Sunshine Coast	0	0	0	648	773	627	648	617	588
	State Sub-total	24,541	26,015	26,600	28,552	29,812	38,382	40,983	39,891	39,898

Students, Selected Higher Education Statistics (DEST)

Table: DEST Question No. E684_06, Number of Students in Science, Maths and Engineering(a) courses, 1996-2004(b)(c)

Western Australia	Curtin University of Technology	3,941	4,211	4,339	4,512	4,126	5,762	5,873	6,228	6,521
	Edith Cowan University	2,164	2,434	2,575	3,150	3,277	3,440	3,693	3,722	3,597
	Murdoch University	2,105	2,361	2,379	2,428	2,499	2,829	3,167	3,271	3,206
	The University of Notre Dame	0	0	0	0	1	0	68	140	189
	The University of Western Australia	4,555	4,655	4,568	4,690	4,774	4,969	4,976	5,025	4,915
	State Sub-total	12,765	13,661	13,861	14,780	14,677	17,000	17,777	18,386	18,428
South Australia	The Flinders University of South	2,069	2,175	2,217	2,349	2,132	2,183	2,392	2,377	2,427
	The University of Adelaide	3,894	4,010	3,969	3,987	3,823	4,194	4,555	4,779	5,032
	University of South Australia	3,368	3,447	3,511	3,687	3,813	5,117	5,110	5,538	5,443
	State Sub-total	9,331	9,632	9,697	10,023	9,768	11,494	12,057	12,694	12,902
Tasmania	Australian Maritime College	532	482	538	789	604	1,296	979	949	977
	University of Tasmania	2,523	2,663	2,664	2,713	2,748	2,900	3,148	3,531	4,290
	State Sub-total	3,055	3,145	3,202	3,502	3,352	4,196	4,127	4,480	5,267
Northern Territory	Charles Darwin University	793	827	794	800	792	850	812	731	598
	State Sub-total	793	827	794	800	792	850	812	731	598
Australian Capital Territory	Australian Defence Force Academy	782	896	938	968	898	1,058	1,122	1,201	1,238
	The Australian National University	2,652	3,032	3,036	2,922	2,916	2,951	3,199	3,323	3,475
	University of Canberra	1,997	2,057	1,473	1,541	1,519	1,892	1,874	1,872	1,593
	State Sub-total	5,431	5,985	5,447	5,431	5,333	5,901	6,195	6,396	6,306
Multi-State	Australian Catholic University	380	482	655	732	949	550	704	704	641
	State Sub-total	380	482	655	732	949	550	704	704	641
TOTAL(c)		140,719	150,072	151,987	157,591	161,414	192,066	202,483	206,048	205,951

NOTES:

(a) Science, Maths and Engineering = Field of Education codes 010000-039999 (for 2001-2004) and Field of Study codes 060000-069999, 090000-099999 (for 1996-2000)

(b) Data for 2001 onwards were compiled in a different way to the prior years. Details are as follows:

----- New Scope 2001-2004: Includes full year enrolments, and uses the ASCED international standard for Field of Education.

----- Old Scope 1995-2000: Includes only those students enrolled as at 31 March in the given year, and uses the old Field of Study classification.

(c) Data from 1997 onwards were compiled in a different way to data for prior years to take into account the coding of Combined Courses to two fields of education. As a consequence, the total for some broad fields of study show larger increases than would be the case if data for only one field were to be counted. Counting both fields of education for Combined Courses means that the Sub-totals and Totals for each year may be less than the sum of the individual Fields of Education.

**DEST Question No. E684_06 - b) by Narrow Field of Education
Science and Mathematics enrolments - University**

ATTACHMENT 2

Students, Selected Higher Education Statistics (DEST)

Table: DEST Question No. E684_06, Number of Students in Science, Maths and Engineering(a) courses, 1996-2004(b)(c)

Field of Study/Field of Education			Enrolments as at 31 March					Full Year enrolments			
			1996	1997	1998	1999	2000	2001	2002	2003	2004
Old Scope	06 Engineering, Surveying	0601 Engineering, Surveying - General	313	286	268	205	531	0	0	0	0
		0602 Engineering	46,715	48,044	48,035	48,685	48,678	0	0	0	0
		0603 Surveying	1,705	1,742	1,690	1,756	1,668	0	0	0	0
		Sub-total(c)	48,733	50,013	49,932	50,596	50,827	0	0	0	0
	09 Science	0901 Science - General	27,900	32,290	31,491	31,315	30,023	0	0	0	0
		0902 Computer Science, Information	24,555	29,934	32,966	38,229	44,488	0	0	0	0
		0903 Life, General Sciences	26,980	29,313	30,099	30,542	30,423	0	0	0	0
		0904 Mathematics	4,305	4,235	3,814	3,738	3,655	0	0	0	0
		0905 Physical Sciences	8,246	8,182	7,858	7,678	7,168	0	0	0	0
		Sub-total(c)	91,986	103,701	105,860	111,065	115,217	0	0	0	0
New Scope	01 Natural and Physical Sciences	0100 Natural and Physical Sciences	0	0	0	0	0	18,737	17,765	14,899	14,946
		0101 Mathematical Sciences	0	0	0	0	0	3,320	3,596	3,611	3,821
		0103 Physics and Astronomy	0	0	0	0	0	2,030	2,189	2,350	2,483
		0105 Chemical Sciences	0	0	0	0	0	2,464	2,241	2,335	2,768
		0107 Earth Sciences	0	0	0	0	0	2,878	1,968	1,871	1,880
		0109 Biological Sciences	0	0	0	0	0	14,850	16,044	16,182	17,130
		0199 Other Natural and Physical	0	0	0	0	0	22,122	24,789	29,635	31,122
		Sub-total(c)	0	0	0	0	0	66,078	68,259	70,556	73,987
	02 Information Technology	0200 Information Technology	0	0	0	0	0	7,112	7,045	7,348	5,726
		0201 Computer Science	0	0	0	0	0	27,279	28,053	26,766	26,346
		0203 Information Systems	0	0	0	0	0	27,197	29,123	27,088	23,514
		0299 Other Information Technology	0	0	0	0	0	12,149	15,332	15,895	17,166
		Sub-total(c)	0	0	0	0	0	73,031	78,997	77,004	72,734

**DEST Question No. E684_06 - b) by Narrow Field of Education
Science and Mathematics enrolments - University**

ATTACHMENT 2

Students, Selected Higher Education Statistics (DEST)

Table: DEST Question No. E684_06, Number of Students in Science, Maths and Engineering(a) courses, 1996-2004(b)(c)

Field of Study/Field of Education			Enrolments as at 31 March					Full Year enrolments			
			1996	1997	1998	1999	2000	2001	2002	2003	2004
New Scope (cont)	03 Engineering and Related Technologies	0300 Engineering and Related	0	0	0	0	0	8,138	6,279	6,708	6,814
		0301 Manufacturing Engineering and	0	0	0	0	0	1,091	1,270	1,549	1,544
		0303 Process and Resources	0	0	0	0	0	5,099	5,845	6,041	6,582
		0305 Automotive Engineering and	0	0	0	0	0	26	63	91	120
		0307 Mechanical and Industrial	0	0	0	0	0	7,530	8,185	8,310	8,561
		0309 Civil Engineering	0	0	0	0	0	7,164	7,435	7,723	7,934
		0311 Geomatic Engineering	0	0	0	0	0	1,880	1,868	1,894	1,871
		0313 Electrical and Electronic	0	0	0	0	0	16,371	18,428	19,566	19,117
		0315 Aerospace Engineering and	0	0	0	0	0	2,067	2,557	2,696	2,879
		0317 Maritime Engineering and	0	0	0	0	0	291	747	879	735
		0399 Other Engineering and Related	0	0	0	0	0	9,242	9,311	10,080	10,341
Sub-total(c)			0	0	0	0	58,298	61,255	64,670	65,527	
TOTAL(c)			140,719	150,072	151,987	157,591	161,414	192,066	202,483	206,048	205,951

NOTES:

(a) Science, Maths and Engineering = Field of Education codes 010000-039999 (for 2001-2004) and Field of Study codes 060000-069999, 090000-099999 (for 1996-2000)

(b) Data for 2001 onwards were compiled in a different way to the prior years. Details are as follows:

----- New Scope 2001-2004: Includes full year enrolments, and uses the ASCED international standard for Field of Education.

----- Old Scope 1995-2000: Includes only those students enrolled as at 31 March in the given year, and uses the old Field of Study classification.

(c) Data from 1997 onwards were compiled in a different way to data for prior years to take into account the coding of Combined Courses to two fields of education. As a consequence, the total for some broad fields of study show larger increases than would be the case if data for only one field were to be counted. Counting both fields of education for Combined Courses means that the Sub-totals and Totals for each year may be less than the sum of the individual Fields of Education.

**DEST Question No. E684_06 - c) Advanced Mathematics (a)
Science and Mathematics enrolments - University**

ATTACHMENT 3

Students, Selected Higher Education Statistics (DEST)

Table: DEST Question No. E684_06, Number of Students in Science, Maths and Engineering courses, 1996-2004(b)(c)

Course Level	Enrolments as at 31 March					Full Year enrolments			
	1996	1997	1998	1999	2000	2001	2002	2003	2004
Postgraduate	946	862	768	718	690	916	1,073	1,097	1,200
Undergraduate	3,348	3,325	2,990	2,969	2,875	2,350	2,518	2,507	2,620
Enabling and Non-award courses	11	48	56	51	90	54	5	7	1
TOTAL	4,305	4,235	3,814	3,738	3,655	3,320	3,596	3,611	3,821

NOTES:

(a) Mathematics = Field of Education codes 010100-010199 (years 2001-2004), and Field of Study 090401-090499 (years 1996-2000).

(b) Data for 2001 onwards were compiled in a different way to the prior years. Details are as follows:

----- New Scope 2001-2004: Includes full year enrolments, and uses the ASCED international standard for Field of Education.

----- Old Scope 1995-2000: Includes only those students enrolled as at 31 March in the given year, and uses the old Field of Study classification.

(c) Data from 1997 onwards were compiled in a different way to data for prior years to take into account the coding of Combined Courses to two fields of education. As a consequence, the total for some broad fields of study show larger increases than would be the case if data for only one field were to be counted. Counting both fields of education for Combined Courses means that the Sub-totals and Totals for each year may be less than the sum of the individual Fields of Education.