

HSC Results

2015



Dr Kim Jaggar
14 March 2016

HSC Participation

| Year | HSC Total | HSC Completed | At Least one HSC Course |
|------------------------------------|-----------|---------------|-------------------------|
| 2015 | 76461 | 68015 | 8446 |
| 2014 | 75767 | 68004 | 7763 |
| 2013 | 74277 | 66841 | 7436 |
| 2012 | 72473 | 66590 | 5883 |
| 2011 | 71443 | 66125 | 5318 |
| Acceleration and pathways students | 7% | 2.86% | Up 58.82% since 2011 |

HSC Results Analysis

Total Number of Band 6/E₄s

| Year | School Band 6 | State Band 6 | Students Awarded Band 6 | State Percent Band 6 v all Bands | State Band 6 per B6 Student | School Band 6 Per SBHS Student |
|------|---------------|--------------|-------------------------|----------------------------------|-----------------------------|--------------------------------|
| 2015 | 709 | 35975 | 16568 | 10.5 | 2.17 | 3.39 |
| 2014 | 641 | 35982 | 16485 | 10.5 | 2.18 | 3.13 |
| 2013 | 585 | 34684 | 15949 | 10.1 | 2.17 | 2.93 |
| 2012 | 592 | 35055 | 15940 | 10.2 | 2.19 | 2.87 |
| 2011 | 690 | 36135 | 16412 | 10.5 | 2.2 | 3.33 |

Band 6 Movements

| Year | State Band 6 Growth % | School Band 6 Growth % |
|------|-----------------------|------------------------|
| 2015 | -0.001 | +10.61 |
| 2014 | +3.7 | +9.6 |
| 2013 | -1.05 | -1.8 |
| 2012 | -3 | -14.2 |
| 2011 | -2.6 | +17.9 |

Mean Score of SBHS Students in HSC Courses With Ten or More Students

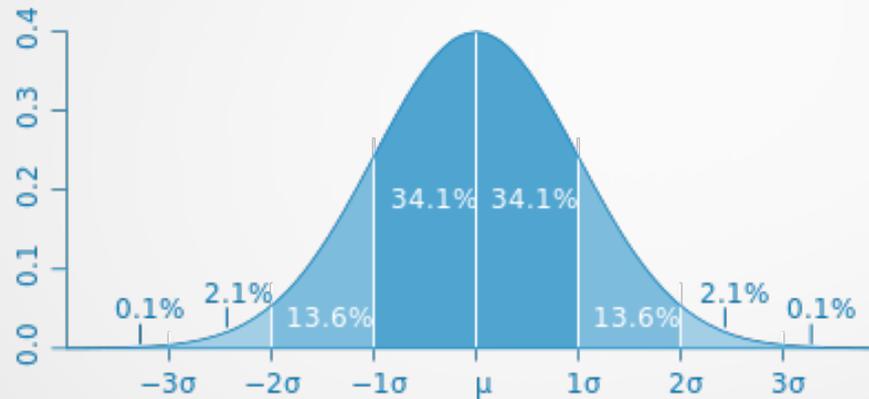
| Course | School 2015 | School Average 2011-2105 | SSG 2015 (Selective Schools) | State DoE 2015 |
|---------------------|-------------|--------------------------|------------------------------|----------------|
| Biology | 84.5 | 83.7 | 84.4 | 69.5 |
| Business Studies | 92.2 | 90.4 | 86.1 | 71.1 |
| Chemistry | 89.1 | 88.6 | 84.9 | 75.5 |
| Economics | 84.1 | 85.2 | 83.6 | 76.0 |
| Engineering Studies | 87.3 | 88.0 | 86.7 | 75.2 |
| English (Advanced) | 88.1 | 87.7 | 86.3 | 80.1 |
| English Extension 1 | 90.8 | 89.7 | 88.0 | 84.1 |
| Geography | 88.1 | 88.2 | 85.0 | 69.6 |
| Legal Studies | 88.0 | 89.3 | 86.9 | 72.3 |

Mean Score of Students in HSC Courses With Ten or More Students (cont.)

| Course | School 2015 | School Average 2011-2105 | SSG 2015 (Selective Schools) | State DoE 2015 |
|---------------------------------|-------------|--------------------------|------------------------------|----------------|
| Mathematics | 91.4 | 89.7 | 87.5 | 77.1 |
| Mathematics Extension 1 | 93.0 | 90.1 | 89.1 | 82.3 |
| Mathematics Extension 2 | 91.4 | 89.5 | 88.5 | 83.4 |
| Modern History | 90.0 | 88.4 | 87.3 | 72.5 |
| History Extension | 83.3 | 84.0 | 87.0 | 77.1 |
| Music 2 | 88.9 | 90.7 | 90.3 | 86.9 |
| Physics | 87.1 | 86.4 | 83.3 | 72.1 |
| Senior Science | 85.4 | 87.8 | 83.9 | 69.2 |
| Software Design and Development | 90.9 | 88.0 | 86.3 | 72.1 |
| Studies of Religion II | 79.8 | 81.9 | 81.5 | 65.8 |

Explanation of Terms

Standard deviation



- Standard deviation (σ) shows how much variation or dispersion from the average (mean) exists. Each band has a width of one standard deviation.
- The mean is the sum of all the numbers in the set (candidates scores in an HSC course), divided by the amount of numbers in the set (number of candidates).

Explanation of Terms (cont.)

Z score:

A z score for an HSC course is the school mean minus the state mean divided by the state standard deviation.

Assume a normal curve distribution. Let's say the state HSC mean for a course is 74 and its standard deviation is 12. At High the course mean is 86. The calculated z-score is $(86 - 74) / 12 = 1$.

There are 15.9% of candidates left after the first standard deviation above the mean. As it happens, about 16.3% of students who apply are awarded an ATAR of 90 or more.

NB The distribution for TES purposes is not normal.

Top 20 Z Scores

| | | | |
|----------------------------|------|--------------------------------|------|
| Design & Technology 2 unit | 1.64 | Legal Studies 2 unit | 1.07 |
| Business Studies 2 unit | 1.46 | Biology 2 unit | 1.03 |
| Software Design/Devel. | 1.44 | Geography 2 unit | 1.03 |
| Personal Development | 1.3 | German Continuers 2 unit | 1.02 |
| Ancient History 2 unit | 1.27 | Senior Science 2 unit | 1 |
| Chemistry 2 unit | 1.15 | Mathematics 2 unit | 0.95 |
| Physics 2 unit | 1.11 | Chinese Continuers 2 unit | 0.86 |
| Modern History 2 unit | 1.1 | English (Advanced) 2 unit | 0.86 |
| Engineering Studies 2 unit | 1.09 | French Continuers 2 unit | 0.86 |
| Visual Arts 2 unit | 1.09 | Mathematics Extension 1 2 unit | 0.85 |
| Studies of Religion 1 unit | 1.08 | | |

Explanation of Terms (cont.)

The school mean ATAR unit value:

The school mean ATAR unit value is calculated as the school per unit HSC mean, minus the state per unit HSC mean, divided by the state per unit HSC standard deviation, multiplied by the ATAR per unit standard deviation; the result being added to the state ATAR mean unit scaled value.

English Advanced HSC mean unit value was 43.83. The HSC mean was 40.4 with a standard deviation of 4.1. The ATAR SD was 8 and the scaled mean 32 per unit.
 $(43.83-40.4)/4 \times 8 + 32 = 38.89$.

At High the English Advanced mean unit scaled value was 38.89.

The Z-score was- $(43.83-40.4)/4.1 = 0.84$ [n=206].

What Does ATAR Unit Value Mean?

The ATAR unit value is the score the average SBHS student received in a course as a calculation towards an ATAR. The best ten scaled units (including 2 English) are aggregated to arrive at a TES and ATAR.

| | | | |
|-------|------------|---|-------|
| 99.95 | = 10 units | @ | 47.7 |
| 99.5 | = 10 units | @ | 45.6 |
| 99.0 | = 10 units | @ | 44.6 |
| 98.0 | = 10 units | @ | 43.2 |
| 97.0 | = 10 units | @ | 42.3 |
| 96.0 | = 10 units | @ | 41.1 |
| 95.0 | = 10 units | @ | 40.4 |
| 94.0 | = 10 units | @ | 39.5 |
| 93.0 | = 10 units | @ | 38.7 |
| 92.0 | = 10 units | @ | 38.06 |
| 91.0 | = 10 units | @ | 37.58 |
| 90.0 | = 10 units | @ | 36.76 |

Targets for HSC 2015

- Earn 625 band 6 /E4 awards (achieved 709)
- Have >160 boys @ ≥ 90 (achieved 173)
- More than 50 @ 99 or above (achieved 54);
75 (95-98.95) 80; 40 (90-94.95) (39)
- Reach ATAR average of > 93.5 (achieved 94.27)
- Produce 76.5% of ATARs @ 90 (achieved 83.09%)
- Reduce ATARs <80 to 7.75% (achieved 5.77 %)

Reported or Calculated ATARs

| Year | Year 12 | Average ATAR | Standard Deviation |
|------|---------|--------------|--------------------|
| 2010 | 191 | 92.98 | 9.32 |
| 2011 | 207 | 94.57 | 6.84 |
| 2012 | 206 | 92.65 | 9.33 |
| 2013 | 200 | 93.17 | 7.39 |
| 2014 | 204 | 93.72 | 8.16 |
| 2015 | 207 | 94.29 | 7.48 |

5 Year ATAR History

| Year | Yr. 12 | 99+ | 95- 98 | 90- 94+ | > =90 | 85- 89 | 80- 84 | <80 |
|------|-----------|-----|-----------|------------|-------|-----------|-----------|-----|
| 2011 | 207 | 57 | 80 | 33 | 83.09 | 16 | 9 | 12 |
| 2012 | 206 | 49 | 70 | 37 | 75.73 | 22 | 9 | 19 |
| 2013 | 200 | 37 | 74 | 45 | 78.39 | 15 | 13 | 16 |
| 2014 | 204 | 55 | 74 | 36 | 80.88 | 13 | 10 | 16 |
| 2015 | 207 | 54 | 79 | 39 | 83.09 | 14 | 9 | 12 |

ATAR Value Per Course N>10

| Course | Candidature No. in top1% | HSC Mark | 90th % Mark | ATAR Value |
|---------------------|-----------------------------|-------------|----------------|---------------|
| Mathematics ext 2 | 33 | 49 | 47 | 47.3 |
| Mathematics ext 1 | 90 | 49.5 | 47.5 | 46.5 |
| English extension 1 | 48 | 48 | 47 | 44.1 |
| Music 2 | 6 | 49 | 47.5 | 43.9 |
| Economics | 50 | 47.5 | 45 | 43.5 |
| Chemistry | 109 | 46.5 | 45 | 43.1 |
| Mathematics | 164 | 49 | 46.5 | 42.5 |
| History extension | 18 | 49 | 46 | 42.3 |
| English Advanced | 260 | 47.5 | 45.5 | 42.3 |
| Physics | 95 | 47.5 | 44 | 42.3 |

ATAR Value Per Course ≥ 10

| Course | Candidature No. in top 1% | + Mark | 90 th % Mark | ATAR Value |
|-----------------------|------------------------------|--------|----------------------------|---------------|
| Modern History | 110 | 47 | 45 | 39.9 |
| Studies of Religion 2 | 54 | 47 | 44 | 39.6 |
| Legal Studies | 102 | 47.5 | 45 | 39.1 |
| Business Studies | 165 | 47 | 44.5 | 38.3 |
| Software Design | 17 | 48 | 44 | 38 |
| Biology | 172 | 46.5 | 43.5 | 39.2 |
| Senior Science | 63 | 47.5 | 44 | 33.3 |

Mean ATAR Value Per Course N>=10

| Course | High Mean Unit Value | Difference from 90 ATAR 36.7 |
|---------------------|----------------------|------------------------------|
| Mathematics ext 2 | 45.49 | 8.79 |
| Mathematics ext 1 | 43.48 | 6.78 |
| Chemistry | 42.43 | 5.73 |
| English Extension 1 | 41.8 | 5.1 |
| Physics | 41.18 | 4.48 |
| Mathematics | 40.54 | 3.84 |
| Business Studies | 39.77 | 3.07 |
| Software Design | 39.10 | 2.4 |

Mean ATAR Value Per Course N \geq 10

| Course | High Mean Unit Value | Difference from 90 ATAR 36.7 |
|------------------------|-------------------------|---------------------------------|
| Economics | 37.96 | 1.26 |
| English Advanced | 38.89 | 2.19 |
| Modern History | 38.51 | 1.81 |
| Studies of Religion 2U | 36.95 | +0.25 |
| History Extension | 36.68 | +0.01 |
| Legal Studies | 36.60 | -0.07 |
| Senior Science | 28.83 | -7.87 |

Mean ATAR Value Per Course N<10

| Course | High Mean Unit Value | Difference from 90 ATAR 36.7 |
|--------------------|-------------------------|---------------------------------|
| Latin Extension | 43.49 | 6.79 |
| German Continuers | 43.1 | 6.4 |
| French Continuers | 42.29 | 5.59 |
| Chinese Continuers | 41.62 | 4.92 |
| Latin Continuers | 40.1 | 3.4 |

| 2015 | Course No. in State | State mean per unit HSC | School mean per unit | HSC unit SD | ATAR Unit value | ATAR SD | School | | No. in SBHS | HSC 99th % | ATAR 99th % | HSC 90th % | ATAR 90th % | HSC 75th % | ATAR 75th % |
|---------|---------------------|-------------------------|----------------------|-------------|-----------------|---------|--------|-----------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | | | Exam | | | | Scld. | ATAR unit value | | | | | | | |
| | | | | | | | | | | | | | | | |
| English | 26002 | 40.4 | 43.83 | 4.1 | 32.2 | 8.0 | 38.89 | 0.84 | 206 | 47.5 | 46.7 | 45.5 | 42.3 | 43.5 | 38.2 |
| | 28066 | 40.5 | 44.4 | 3.3 | 33.2 | 7.6 | 40.28 | 0.99 | 210 | 47.5 | 47.9 | 45.5 | 42.8 | 43.5 | 38.9 |
| Ext. 1 | 4848 | 41.6 | 45.21 | 4.40 | 36.30 | 6.70 | 41.80 | 0.82 | 42 | 49 | 48 | 47 | 44.1 | 45 | 41.3 |
| | 6282 | 41.6 | 45.2 | 4.4 | 38.4 | 5.9 | 41.92 | 0.92 | 96 | 49 | 49.1 | 47 | 46.4 | 45.4 | 43.9 |
| Drama | 4593 | 39.1 | 39.48 | 4.7 | 23.8 | 10.5 | 24.65 | 0.08 | 4 | 48 | 45.8 | 45.5 | 38.5 | 42.5 | 31.7 |
| | 5134 | 39.2 | 42.06 | 4.4 | 24.3 | 10.1 | 32.49 | 0.8 | 11 | 48 | 46.1 | 45.5 | 39 | 42.5 | 32 |
| Maths | 16450 | 39.2 | 45.52 | 6.7 | 31.2 | 9.9 | 40.54 | 0.94 | 166 | 49 | 47.6 | 46.5 | 42.9 | 44 | 38.6 |
| | 20799 | 39.4 | 45.52 | 6.2 | 31.2 | 6 | 40.54 | 1.02 | 187 | 49 | 47.6 | 47 | 42.9 | 44 | 39.1 |
| Ext 1 | 9022 | 40.80 | 44.89 | 6.30 | 39.20 | 6.60 | 43.48 | 0.65 | 162 | 49.5 | 49.1 | 47.5 | 46.5 | 45.5 | 44 |
| | 9955 | 41 | 44.89 | 6.30 | 40.1 | 6 | 44 | 0.66 | 184 | 49.5 | 49.5 | 48 | 48 | 46 | 45.6 |
| Ext 2 | 3371 | 41 | 44.28 | 5.8 | 43 | 4.4 | 45.49 | 0.57 | 117 | 49 | 49 | 47.0 | 47.3 | 45.5 | 45.9 |
| | 3512 | 41.9 | 44.8 | 5.4 | 44.7 | 4.4 | 46.71 | 0.59 | 123 | 49 | 49.7 | 47.5 | 49.2 | 46.1 | 48.5 |

| 2015 | Course No. in State | State mean per unit HSC | School mean per unit | HSC unit SD | ATAR Unit value | ATAR SD | School | | No. in SBHS | HSC 99th % | ATAR 99th % | HSC 90th % | ATAR 90th % | HSC 75th % | ATAR 75th % |
|-----------------|---------------------|-------------------------|----------------------|-------------|-----------------|---------|-----------------|---------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | | | Exam | | Scld. | | ATAR unit value | Z Score | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| Biology | 17269 | 35.8 | 42.21 | 6.3 | 26.5 | 10.0 | 36.67 | 1.02 | 33 | 46.5 | 45.1 | 43.50 | 39.2 | 40.50 | 34.1 |
| | 17269 | 37.2 | 43.53 | 4.9 | 26.9 | 9.3 | 36.95 | 1.07 | 36 | 47.5 | 45.5 | 44.50 | 39.7 | 41.50 | 34.6 |
| Chemist. | 10905 | 38.1 | 44.42 | 5.6 | 31.6 | 9.7 | 42.43 | 1.13 | 106 | 47.5 | 47.1 | 45.00 | 43.1 | 42.5 | 39.2 |
| | 11173 | 38.3 | 44.71 | 5.6 | 31.8 | 9.2 | 42.43 | 1.05 | 110 | 48 | 47.3 | 45.50 | 43.1 | 43 | 39.2 |
| Physics | 9510 | 36.5 | 43.43 | 6.3 | 30.4 | 9.8 | 41.18 | 1.10 | 111 | 47.5 | 47 | 44 | 42.3 | 40.5 | 38.1 |
| | 10158 | 37.8 | 43.43 | 5.4 | 30.7 | 9.2 | 41.18 | 1.11 | 129 | 47.5 | 47 | 45 | 42.4 | 42.5 | 38.2 |
| Sen.Sci | 6320 | 35.9 | 42.62 | 6.7 | 18.7 | 10.1 | 28.83 | 1.00 | 15 | 47.5 | 41 | 44 | 33.3 | 41 | 26.3 |
| | 6328 | 37.7 | 45.5 | 5.6 | 19.2 | 10.2 | 32.75 | 1.32 | 21 | 48 | 41.6 | 44.5 | 33.8 | 42 | 27.1 |

Target Mean v Achieved Mean: n=>100

| | | | |
|-------------------|----------|-------|-------|
| Advanced English | [n=206] | 87.5 | 87.66 |
| Maths Extension 1 | [n=163] | 92.60 | 90.25 |
| Mathematics | [n= 166] | 90.14 | 89.5 |
| Maths Extension 2 | [n= 116] | 91.17 | 90.25 |
| Physics | [n= 111] | 86.86 | 87.5 |
| Chemistry | [n= 106] | 88.83 | 88.75 |

Targets Against Results 2015

| Course | Target Mean | Mean Achieved |
|---------------------|--------------------|----------------------|
| Ancient History | 85.25 | 90.11 |
| Biology | 85 | 84.4 |
| Business Studies | 89 | 91.8 |
| Chemistry | 88.75 | 88.83 |
| Economics | 86.5 | 83.75 |
| Engineering Studies | 88.75 | 86.80 |
| English Advanced | 87.5 | 87.66 |
| English Extension | 90.25 | 90.20 |
| Geography | 86.5 | 87.77 |
| Legal Studies | 89.15 | 87.87 |

Targets Against Results 2015

| Course | Target Mean | Mean Achieved |
|-------------------------------|--------------------|----------------------|
| Mathematics 2U | 89.50 | 91.04 |
| Mathematics Extension 1 | 90.25 | 92.60 |
| Mathematics Extension 2 | 88.55 | 91.17 |
| Modern History | 87.80 | 89.80 |
| History Extension | 86.50 | 82.66 |
| Physics | 87.50 | 86 |
| Senior Science | 88.25 | 85.23 |
| Software Design / Development | 88.60 | 90.60 |
| Studies of Religion II | 85 | 78.93 |

Targets Against Results 2015

| Course | Target % B6/E4 | Achieved % B6/E4 |
|---------------------|-----------------------|-------------------------|
| Ancient History | 35 | 57 |
| Biology | 25 | 15 |
| Business Studies | 80 | 77 |
| Chemistry | 57 | 51.88 |
| Economics | 35 | 23.94 |
| Engineering Studies | 79 | 41.66 |
| English Advanced | 42.5 | 49.51 |
| English Extension | 79 | 70.37 |
| Geography | 35 | 46.15 |
| Legal Studies | 65 | 52.38 |

Targets Against Results 2015

| Course | Target % B6/E4 | Achieved % B6/E4 |
|-------------------------|-----------------------|-------------------------|
| Mathematics 2U | 74.5 | 72.89 |
| Mathematics Extension 1 | 71.7.5 | 79.75 |
| Mathematics Extension 2 | 72.41 | 70 |
| Modern History | 55.9 | 61.9 |
| History Extension | 58 | 45.45 |
| Physics | 42 | 45.04 |
| Studies of Religion -2U | 25 | 0 |
| Senior Science | 48 | 33.33 |
| Software Design | 33.33 | 75 |

Targets Against Results 2015

| Course | Target % B6/E4 | Achieved % B6/E4 |
|--------------------|-----------------------|-------------------------|
| Drama | 25 | 0 |
| Music 1 | 48 | 100 |
| Music 2 | 50 | 43.75 |
| Music extension | 75 | 100 |
| Visual Arts | 48 | 60 |
| Chinese Continuers | 80 | 100 |
| Chinese Extension | 100 | 100 |

Targets Against Results 2015

| Course | Target % B6/E4 | Achieved % B6/E4 |
|-------------------|----------------|------------------|
| German Continuers | 50 | 66.66 |
| German extension | 43.5 | 0 |
| Latin Continuers | 50 | 50 |
| Latin extension | 50 | 100 |

Courses where targets - band 6 / E4 % met = 17

Courses where targets not met = 16

Where our Students Go

All 205 boys were offered university places.

| Destinations | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------------|------|------|------|------|------|
| UNSW | 100 | 124 | 117 | 124 | 145 |
| Sydney | 62 | 42 | 47 | 41 | 25 |
| UTS | 13 | 7 | 13 | 10 | 3 |
| Macquarie | 13 | 8 | 6 | 10 | 6 |
| ANU | 4 | 9 | 3 | 8 | 7 |
| UWS | 7 | 8 | 8 | 4 | 8 |
| Newcastle | 0 | 1 | 2 | 2 | 0 |
| Other | 8 | 7 | 4 | 6 | 9 |

What Courses Do They Do?

| Course | 2011 | 2012 | 2013 | 2014 | 2015 |
|-----------------------|------|------|------|------|------|
| Engineering | 47 | 34 | 48 | 36 | 39 |
| Commerce | 45 | 49 | 50 | 65 | 64 |
| Law | 30 | 27 | 17 | 29 | 24 |
| Arts | 7 | 13 | 12 | 10 | 5 |
| Science | 19 | 28 | 18 | 12 | 11 |
| Health Sciences | 30 | 41 | 38 | 39 | 46 |
| Design | 3 | 3 | 3 | 2 | 0 |
| Communication | 5 | 6 | 0 | 0 | 3 |
| International Studies | 3 | 1 | 6 | 4 | 1 |
| IT / Systems | 3 | 1 | 5 | 1 | 6 |
| Education | 1 | 2 | 0 | 2 | 0 |

