AUSTRALASIAN CONFERENCE OF TERTIARY ADMISSIONS CENTRES

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Centres

Determining ATAR Equivalents for International Baccalaureate Students

This document has been prepared by ACTAC to explain the procedures used by tertiary admission centres to determine tertiary entrance rankings for International Baccalaureate students.

Background

Before 2004, separate methodologies were used across Australia for assigning tertiary entrance ranks to IB results.

In 2004, in the interest of national consistency, ACTAC agreed to develop a national schedule for the IB and established a working party of state technical experts to undertake this work.

The working party recommended that the best way was to establish national conversion as a weighted average of the three methods used in New South Wales, Victoria and South Australia (these states having the largest cohorts of local IB students at the time). As noted below, each of these states had different data available to them when deriving their local conversion tables.

In July 2005 ACTAC advised the IBO and IB schools that a combined rank table would be used to convert IB results in 2007 for 2008 admissions and circulated a combined table showing how the conversion would apply to 2004 data.

The combined rank table is determined annually (in February), and is based on:

- The IB population weightings used for the current year IB results as provided by the IB Regional Representative – Australasia, with
  - ACT and NSW treated as a single entity
  - NT and SA treated as a single entity
- The latest rank table from each of NSW, SA and Victoria.

The Victorian and New South Wales rank tables are reviewed annually according to the appropriate state methodology. The South Australian rank table contributing to the combined rank is reviewed every five years.

ACTAC determines annually the combined rank table to convert IB scores to tertiary entrance ranks for use in New South Wales and Australian Capital Territory, Queensland, Tasmania, Victoria and Western Australia.

The combined table is not used in South Australia and the Northern Territory.

The combined rank table is determined from the three state conversion tables (NSW, South Australia and Victoria), with the contribution from each state weighted according to the size of their IB candidature. ACT and NSW are treated as a single entity and South Australia and Northern Territory are treated as a single entity.

In recent years there has been significant growth in the number of IB students in Queensland. When sufficient numbers of Queensland IB students have progressed to tertiary study, Queensland data will be included and contribute to the combined rank calculation.

Methodology Used in Each State

New South Wales

Year 12 students who are eligible for an ATAR in NSW are ranked on the basis of an aggregate of scaled HSC marks, which comprise their best two units in English and their best eight units from their remaining courses.

These Year 12 ranks are converted to age cohort ranks using a score equating technique with the School Certificate Examination used as the anchor variable as student achievement on this test is highly correlated with achievement in the HSC. The purpose of the equating exercise is to determine the ranking of these students with respect to their age cohort, which in NSW, is closely approximated by their Year 7 cohort.

Full details of the methodology are given in a UAC Technical Report (2009), The Australian Tertiary Admission Rank in New South Wales.

Most IB students in NSW have completed the NSW School Certificate Examination two years before completing their IB and research shows that their results in this examination are highly correlated with their IB scores.

The underlying principle of the methodology used to determine UAC ranks for IB students is that students who have similar levels of achievement in the School Certificate Examination will demonstrate similar levels of achievement at the end of Year 12, irrespective of whether they completed the Higher School Certificate or IB. Data show that an IB student scoring 24 has demonstrated similar achievement to the middle student in the HSC cohort.

The process for determining the UAC ranks equivalent to the IB scores is as follows:

1. School Certificate data are obtained for HSC and IB cohorts for the current year and for the two preceding years.
2. School Certificate Examination total marks are mapped against ATARs and IB scores, from which a mapping of IB scores to ATARs can be determined.
3. A quadratic regression is then used to obtain a smooth relationship between IB scores and predicted ATARS, which are the UAC ranks.
4. The final relationship is determined by modifying the relationship by equating an IB score of 45 to a UAC rank of 99.95 and ensuring that an IB score of 24 equates to a UAC rank similar to the median ATAR.

The calculation is performed annually.

South Australia

The approach used in South Australia is based on the following premise:

> A fair and equitable conversion table will convert an IB result to an ATAR equivalent where the IB student (on average) will perform at the same level in higher education as a SACE student (on average) with a corresponding TER.

To create an equivalence table, a research database is maintained by SATAC. Every IB school leaver who has gained entry to an SA university via SATAC's university undergraduate admissions service in the last 10 years is added to the database.

In addition, as a control group, Year 12 SACE school leavers are included where:

- they had gained entry to the same courses as the IB students in the database; and

- they are within a 10 rank ATAR band surrounding the converted rank (using whatever has been the current conversion of the IB students in the course, providing a wide enough range of students in the control group to allow for data modelling).

The database typically includes in the order of 130 IB candidates and 1000 SACE candidates from each year. Contemporary research databases contain 10 years of students.

Higher education results are added to this database and converted to Grade Point Averages (GPA) using the methodology required by SATAC's participating universities.

Correlations between ATAR, IB score and GPA are tested to confirm:

- there is an appreciable relationship between ATAR and first year higher education performance
- performance at the higher education level is a valid point of comparison of achievements for SACE and IB students and the basis for the ATAR/IB conversion
- the relationship between ATAR and GPA and mapped ATAR for IB students and GPA using the current SATAC equivalence table is very similar, indicating a level of confidence in the existing conversion.

The basic methodology used to model the conversion table involves an iterative process to produce a “best fit” table of equivalences.

The resulting equivalence table are forwarded to the universities for approval through the SATAC University Procedures Committee.

Victoria

The Victorian methodology uses the General Achievement Test (GAT) which is undertaken by all VCE completing students and Victorian IB students in June each year.

The correlation analyses show that there is a linear relationship between VCE scaled aggregates and GAT results and a linear relationship between IB scores and GAT results.

A regression equation determines the scaled aggregate corresponding to an IB score of 24.

An IB score of 45 is set to correspond to the scaled aggregate for an ATAR of 99.95.

Linear interpolation between these two points assigns scaled aggregate scores corresponding to each passing IB score between 24 and 45.

Scaled aggregates are converted to Notional ATARs using the scaled aggregate to ATAR table for that year.

To ensure robustness of the process, both VCE and IB data are amalgamated over three years.

The 2011 International Baccalaureate Combined Rank

For 2011 the Victorian weighting was 46.65, the SA/NT weighting was 23.89 and the NSW/ACT weighting was 29.47. These states accounted for 72.93% of the Australia wide IB population.

The state ranks used in the 2011 calculation were the February 2011 rank table from NSW, the 2009 rank table from South Australia Rank Table, and the rank table from Victoria using 2008-2010local VCE and IB results.

2011 Passing IB Score including bonus points	New South Wales Contribution to the Combined Rank	South Australian Contribution to the Combined Rank	Victorian Contribution to the Combined Rank	Combined Rank
45	99.95	99.95	99.95	99.95
44	99.65	99.95	99.90	99.80
43	99.05	99.95	99.75	99.55
42	98.20	99.85	99.55	99.20
41	97.60	99.20	99.20	98.70
40	96.60	98.85	98.65	98.05
39	95.50	98.50	98.05	97.40
38	94.40	98.20	97.20	96.60
37	93.00	97.75	96.20	95.60
36	91.40	96.30	94.85	94.15
35	89.70	95.50	93.30	92.75
34	87.30	95.15	91.50	91.10
33	84.85	94.55	89.60	89.35
32	82.05	93.30	87.55	87.30
31	79.75	91.35	85.90	85.35
30	77.70	87.15	82.95	82.40
29	75.35	83.85	80.45	79.75
28	73.45	82.90	77.80	77.70
27	71.45	81.30	74.80	75.35
26	70.20	78.95	71.75	73.00
25	68.85	75.55	68.75	70.40
24	68.10	69.90	65.45	67.25

IB Subject Scores and State and Territory Year 12 Subject Scores

In 2009 ACTAC established an expert group to consider methodologies for mapping Year 12 subject scores/grades across each jurisdiction, including the IB.

The expert group developed grade mapping tables for subject prerequisites and subject bonus purposes. ACTAC agreed that the use of these tables would be determined by each tertiary admission centre.

Further information on the mappings used by each state/territory is available from the relevant tertiary admission centre.