

# ABC OF SCALING

## Some background

The Victorian Curriculum and Assessment Authority (VCAA) administers the two senior secondary certificates available for Victorian students. The Victorian Certificate of Education (VCE) is awarded for the successful completion of secondary education and provides pathways into tertiary education, training and work. The Victorian Certificate of Applied Learning (VCAL) is a practical work related certificate and provides pathways into training, apprenticeships and work.

The Victorian Tertiary Admissions Centre (VTAC) administers the application and offer process for tertiary institutions in Victoria—universities, Technical and Further Education (TAFE) institutes and independent tertiary colleges.

To assist tertiary institutions in selecting students VTAC provides an overall measure of each student's performance across all their Year 12 studies. This overall measure is called the Australian Tertiary Admission Rank (ATAR).

The following explanation will help you understand how your ATAR has been calculated.

## Tertiary selection for school leavers

VTAC administers the course application, selection and offer processes, and provides applicant information (including VCE and VCAL results) to the selection officers. In selecting students, selection officers largely use information about each applicant's VCE performance. The information used, and how it is used, varies from course to course.

### **First, you must meet the minimum tertiary entrance requirements.**

For higher education courses this is usually satisfactory completion of the VCE including the completion of Units 3 and 4 in one of the VCE English studies in the same year. The same minimum requirement applies for most VET courses, however it does vary between institutions. For more information about minimum tertiary entrance requirements please see the VTAC Guide or VTAC website.

**Second, you must meet any VCE prerequisites for the course.** Students not satisfying the prerequisites are generally not considered for the course.

**The third factor used in selection is an overall measure of how well you performed** in all your VCE studies compared with all other VCE students. This measure is called the Australian Tertiary Admission Rank (ATAR) and is developed for the purposes of tertiary selection only.

The ATAR is only calculated for students who have completed their VCE and have met tertiary entrance requirements.

The ATAR is not the only mechanism used for tertiary selection, and it is not used for all VCE applicants. A large number of courses use a range of other selection mechanisms such as interviews, performance auditions, assessment of folios and tests such as aptitude tests. Other criteria may include performance in prerequisite studies or other studies relevant to the course. Applications for special consideration are also taken into account.

All universities are committed to considering about 20% of applicants on a broader range of criteria than just the ATAR. TAFE institutes and independent tertiary colleges normally use a range of criteria including the ATAR and interviews and generally do not select mainly on the ATAR.

## What counts towards the ATAR?

The ATAR is based on up to six VCE results. The results do not all have to be from the one year. The ATAR is calculated using:

- your best score in any one of the English studies plus
- the scores of your next best three permissible studies (which together with the English study make the 'Primary Four'), plus
- 10 per cent of the scores for any fifth and sixth study which you may have completed (these are called increments).

If you have the Primary Four you will get an ATAR. VTAC will use up to six results in calculating the ATAR. If you have more than six results, the six scores that give the highest ATAR are used.

Studies used in the calculation of the ATAR may be taken over any number of years, however the time taken to complete VCE studies may be taken into account by institutions.

## Vocational Education and Training (VET) programs

VET programs included in the VCE Unit 1 to 4 framework contribute to the ATAR in the same way as VCE studies.

Scored Unit 3 and 4 VET sequences are deemed equivalent to VCE Unit 3 and 4 sequences.

Un-scored Unit 3 and 4 VCE VET sequences may count as a fifth and/or sixth increment which is calculated from the average of the Primary Four ATAR Subject Scores.

Where the VCAA has granted block credit at Units 3 and 4 level, recognised VET or Further Education qualifications at AQF3 or above are eligible for inclusion as a fifth or sixth study increment in the calculation of the ATAR. This increment is calculated as for un-scored Unit 3 and 4 VCE VET sequences.

## Approved Higher Education Studies in Schools

Students undertaking an approved Higher Education Study in Year 12 can include the result as an increment in the ATAR (fifth or sixth study) provided that it is passed, that VCAA co-requisite or prerequisite conditions were met, and study combination restrictions were met. An increment will be awarded for the Higher Education Study, depending on the level of results achieved in the Higher Education Study:

- If your average result over all the Higher Education Study units is at least 90%, the Higher Education increment will be 5.0.
- If your average result over all the HE study units is at least 80% but less than 90%, the Higher Education increment will be 4.5.
- If your average result over all the HE study units is at least 70% but less than 80%, the Higher Education increment will be 4.0.
- If your average result over all the HE study units is at least 60% but less than 70% the Higher Education increment will be 3.5.
- If your average result over all the HE study units is at least 50% but less than 60% the Higher Education increment will be 3.0.

## Restrictions

There are some restrictions on how certain combinations of studies may be counted for your ATAR.

In each of the study areas of English, mathematics, history, information technology, languages other than English and music:

- at most two results can contribute to the Primary Four
- at most three results can contribute to the ATAR, the third being counted as a 10% increment for a fifth or sixth study

This includes Higher Education studies also. So, if your ATAR incorporates a Higher Education study increment from any of the study areas listed above, then at most two VCE ATAR subject scores and/or VET increments from that study area may be used

There are other specific restrictions where two or more studies have similar content, or where studies have been combined.

There are no restrictions on the number of VET results that can be counted in the 2012 ATAR. However, there are industry area restrictions on VET studies similar to the study area restrictions listed above. There are 26 separate industry areas.

For further information refer to the VICTER publication available on the VTAC website [www.vtac.edu.au/pdf/publications/victer2015.pdf](http://www.vtac.edu.au/pdf/publications/victer2015.pdf)

## How is the ATAR calculated?

The following process is used to calculate each student's ATAR.

All VCE Study Scores are scaled to adjust for the fact that it is more difficult to obtain a high study score in some studies than others. The scaled Study Scores are called ATAR Subject Scores.

An ATAR Aggregate is calculated by adding:

- your best ATAR Subject Score in any one of the English studies, plus
- the ATAR Subject Scores of your next best three permissible studies, plus
- 10 per cent of the ATAR Subject Score for a fifth study (where available), plus
- 10 per cent of the ATAR Subject Score for a sixth study (where available).

The Scores contributing to the Aggregate are subject to the study restrictions described above.

The ATAR Aggregate is a number between 0 and a value over 210.

All eligible students are then ranked in order of their ATAR Aggregate, and a percentage rank is assigned to distribute students as evenly as possible over a 100 point scale. All students with the same ATAR Aggregate receive the same percentage rank. If a number of students are tied on a particular aggregate the number that receives the corresponding percentage rank may increase.

Finally, the percentage rank is converted to an ATAR, which is the estimate of where the student came in the relevant age group, taking into account the students who have successfully completed VCE as well as those who moved or left school before Year 12.

The ATAR is a number from 0 and 99.95 in intervals of 0.05. The highest rank is 99.95, the next highest 99.90, and so on. The lowest automatically reported rank is 30.00, with ranks below 30.00 being reported as 'less than 30'.

A complete list of your studies and ATAR Subject Scores, used in the calculation of your ATAR are included on your ATAR statement.

## Why are VCE results scaled?

Each of your Study Scores provided by the VCAA is calculated from the total marks you received for each graded assessment in that study. The Study Scores for all studies are reported on a scale of 0 to 50 with an average score of 30.

The VCE Study Score is not a score out of 50. It is a ranking or relative position which shows a student's performance compared with all other students who took that study in that year. A student with a VCE Study Score of 30 is in the middle of the cohort, or has performed better than about half of all students. A student with a VCE Study Score of 40 has performed better than about 91% of all students who did that study.

What this means is that the middle student in any study will have a VCE Study Score of 30, regardless of how strong the other students were in the study and how difficult it was to achieve the middle ranking.

VTAC's role is to provide a way of ranking students that is fair to students even though they have taken different studies.

Where the student competition in a study is higher, VCE Study Scores have to be adjusted upwards; otherwise students in that study would be disadvantaged.

Similarly, in a study where the student competition is lower, the Study Scores have to be adjusted downwards; otherwise students doing that study would be advantaged.

Scaling ensures that it is equally easy to attain a high ATAR regardless of the combination of studies a student undertakes.

This is not always well understood and many students believe that to achieve their best possible ATAR they need to choose studies that are scaled up. This is not true and may even work against you.

If you choose a study that you are not very good at simply because it will be scaled up, the VCE Study Score you receive will be a lot lower than what you would expect in a study you are good at and that interests you. Yes, your score will be scaled up, but from a lower VCE Study Score. It is unlikely that your scaled ATAR Subject Score would be any higher than if you had chosen a more suitable study, even one that is scaled down.

The way to ensure that you achieve your best ATAR is to choose your studies according to what you are interested in; what you are good at; and what studies you need for future study.

The calculation of the ATAR is a complicated process, but it is the fairest system developed by experts which allows students to undertake the studies they want and enables tertiary institutions to compare students who have completed different combinations of VCE studies.

The use of the ATAR guarantees that all studies are treated equally and provides you with a common score for tertiary selection across Australia.

## How does scaling work?

VTAC adjusts the Study Scores for each study to take account of how strong the students were in the study and how difficult it was to achieve the middle ranking. The strength of competition in each study is measured by how well the students performed in all their other studies.

In each study, the study scores are adjusted so that the overall level of scores in that study matches the scores obtained by the same group of students in all of their other studies.

For example, in Chemistry in 2011 the average VCE Study Score was 30, but the students who took Chemistry averaged 34 for all their studies (including Chemistry). This shows that the students who did Chemistry in 2011 were of above average strength in their other studies. Therefore, the scaling process adjusted the Study Scores upwards so that the average ATAR Subject Score for Chemistry was set at 34.

The 2011 Geography students averaged 29 in all their studies (including Geography). So, the scaling process adjusted the study scores downwards so that the average ATAR Subject Score for Geography was 29.

In some studies the scaling process produces ATAR Subject Scores that are greater than 50. They can go as high as 55. However, the minimum ATAR Subject Score cannot go below zero.

VCE studies are always scaled in the year in which they were undertaken. This may not necessarily be in the year in which you receive your ATAR.

This scaling process is carried out each year for each VCE study and VCE VET program for which there is a study score. There are no predetermined outcomes—the adjustments are based on the performance of students each year. Nevertheless, the process is very stable and there is little difference from year to year in terms of the scaled ATAR Subject Scores.

## Mathematics and LOTE

### Mathematics

VCE mathematics studies are designed to cater for students of differing abilities and interests. Specialist Mathematics is the most difficult, followed by Mathematical Methods (CAS) and then by Further Mathematics.

To ensure that students undertaking the more difficult mathematics studies are not disadvantaged, all three mathematics studies are scaled against each other as well as being scaled against all other studies. The higher of the two resulting scales is used.

### Languages Other Than English (LOTE)

As a result of government policy to encourage the study of languages each LOTE is adjusted up by adding five to the initial ATAR Subject Score average. All students of a LOTE receive an adjustment, but it is not a uniform adjustment.

For example a student achieving a perfect VCE Study Score of 50 is guaranteed an ATAR Subject Score of at least 50. The maximum ATAR Subject Score only goes above 50 when the average score is very high (the scaled mean plus twice the scaled standard deviation exceeds 50). Published means for each LOTE include this adjustment.

## Other variables

### Previous VCE studies

VCE studies are always scaled in the year in which they were undertaken (this may not necessarily be in the year in which you receive your ATAR).

### Further VCE study

Accumulation of a further VCE Study Score (or study scores) may lead to the calculation of a new ATAR. Ranking for courses will be based on the highest ATAR achieved. VTAC will, however, inform course selection authorities of all of your VCE results—including those not contributing to your ATAR.

## Notional ATAR

A 'Notional ATAR' is used to rank students who have a previous Year 12 (other than VCE) or some other qualification (e.g. the International Baccalaureate).

### A Notional ATAR is created for:

- all applicants who successfully completed a full Victorian Year 12 attempt prior to 1992,
- all applicants who (without having successfully completed a full Victorian Year 12 attempt prior to 1992) have for the first time, at least four VCE Study Scores and VCE (HSC) 'Group 1' subjects, or their predecessors in combination including any one of the English group (i.e. at least four scorable subjects), and
- all International Baccalaureate students who qualify for the IB Diploma in the current year.

Note: Only Victorian IB students who sit the GAT will be issued with a Notional ATAR statement.

## Interstate use of the ATAR

If you have applied to other Australian states you will be considered on the basis of your ATAR.

## Interrupted study status

Applicants granted official interrupted study status by the VCAA should seek advice from VTAC about the applicability of rules and provisions in this publication. In general, the rules that require completion of Units 3 and 4 in the one year do not apply to applicants granted interrupted study status in the studies concerned.

## Example of a 2011 aggregate calculation

Year	Study	Results	Study score	Scaled score	Contribution
2011	English	SS	34	32.35	32.35
2011	Drama	SS	36	34.22	34.22
2010	Outdoor & Environmental Studies	SS	39	33.54	33.54
2011	LOTE: French	SS	22	32.86	32.86
2011	Chemistry	SS	25	28.66	2.86
2011	Mathematical Methods (CAS)	SS	19	22.53	2.25
<b>Aggregate</b>					<b>138.8</b>
<b>2011 ATAR</b>					<b>78.05</b>

### Notes:

- The entire scaled score contributed for the Primary 4 studies, while the next two studies contributed 10% of their scaled score.
- Some studies were scaled up while others were scaled down.
- One study from 2010 was included.

Remember, there is no pass or fail ATAR. Every VCE student who receives an ATAR has successfully completed the VCE. An ATAR of 50 is not the pass rank, nor is it the average rank. An ATAR of 50 means you have performed better than 50% of the state population in the relevant age group.