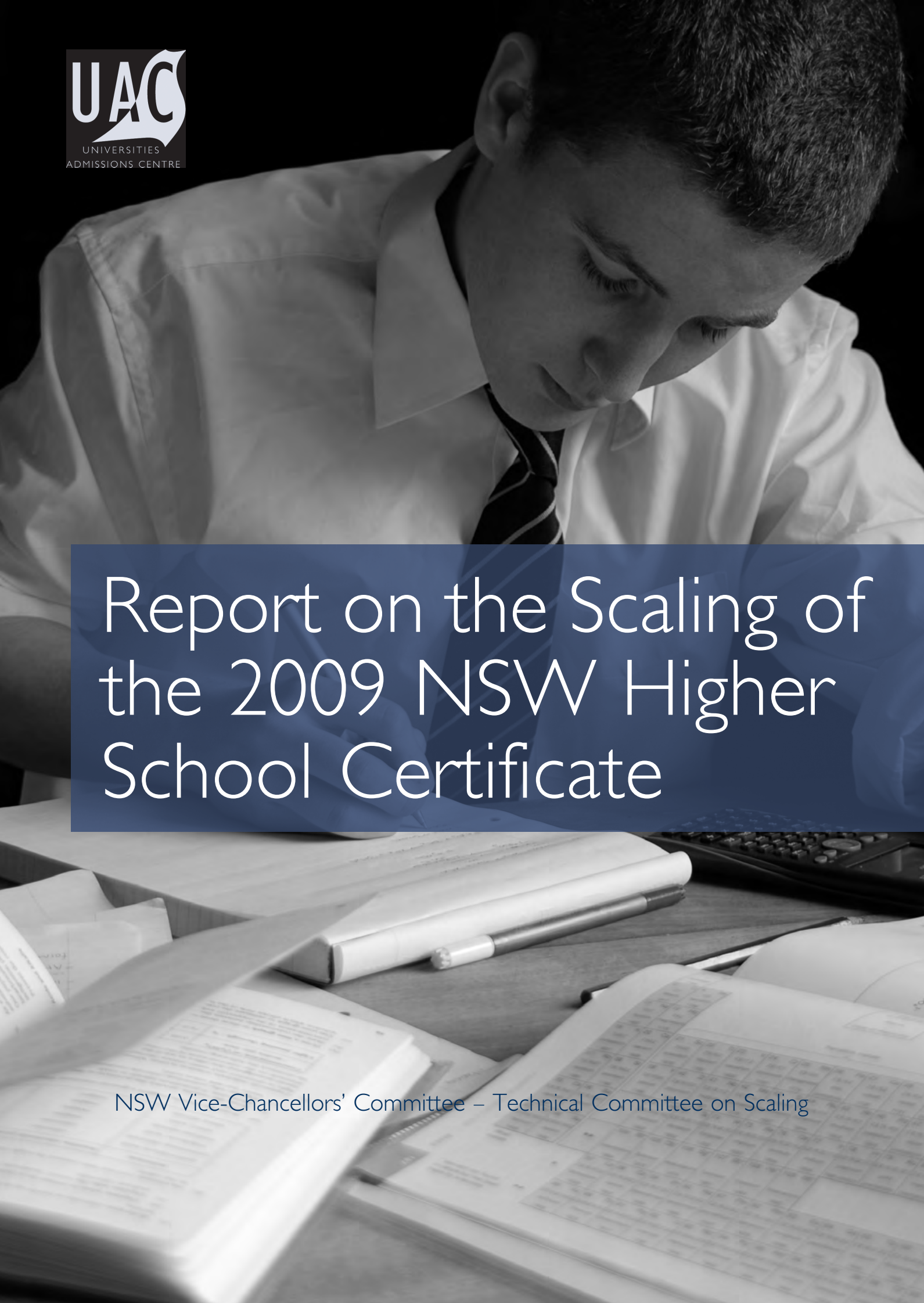

UAC
UNIVERSITIES ADMISSIONS CENTRE

Report on the Scaling of the 2009 NSW Higher School Certificate

NSW Vice-Chancellors' Committee – Technical Committee on Scaling

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Preface

In New South Wales student achievement in Stage 6 (Years 11 and 12) is reported in two ways: through the Higher School Certificate (HSC) Record of Achievement and through the Australian Tertiary Admission Rank (ATAR).

A student's HSC Record of Achievement presents a profile of their achievement in the courses they have completed, both academic and vocational. Their achievement is reported in terms of the standards they have reached in the courses they have completed.

In contrast, the ATAR is a numerical measure of a student's overall academic achievement in the HSC in relation to that of other students. This measure allows the comparison of students who have completed different combinations of HSC courses and indicates the position of a student in relation to other students. The ATAR is calculated solely for use by universities, either on its own or in conjunction with other selection criteria, to rank and select school leavers for admission to university.

Calculation of the ATAR is the responsibility of the Technical Committee on Scaling on behalf of the NSW Vice-Chancellors' Committee (NSWVCC). The NSW Board of Studies provides the HSC data from which the ATARs are calculated and the Universities Admissions Centre (UAC) advises individual students of their ATARs. Because of confidentiality provisions specified in Government legislation, ATARs cannot be provided to the Board of Studies, schools or other agencies.

This report contains information on the calculation of the ATAR in 2009.

Professor Neville Weber
Chair, Technical Committee on Scaling
February 2010

Acknowledgements

Calculating individual ATARs each year and distributing them to the students who requested them is a major task. It requires a high degree of expertise, commitment and co-operation between the staff of several agencies during a period in the year when resources are stretched and time is limited.

- Staff of the NSW Board of Studies who supply the HSC data from which the ATARs are calculated.
- Staff of UAC who distribute the ATARs to individual students, handle enquiries from students following the release of the results, and distribute information about the ATAR to schools during the year.
- Members of the Technical Committee on Scaling who play a central role with responsibility for translating policy decisions into processes, and for developing and maintaining programs that ensure the integrity of the data and the accuracy of the individual ATARs.
- Those members of the Technical Committee on Scaling who work closely with the Chair of the Committee when the ATARs are calculated, and at other times during the year.

Without the skill and commitment of these people, the calculation and distribution of the ATARs would not be possible.

I would like to acknowledge the additional work in 2009 by the technical staff involved with the calculation of the ATARs and by the staff at UAC who worked effectively to distribute information to students, parents, schools and the media to explain the change to the system for reporting admission ranks.

Definitions

The Board
The Board refers to the NSW Board of Studies.

UAC
UAC refers to the Universities Admissions Centre (NSW and ACT) Pty Ltd.

Board Developed courses
Board Developed courses are courses whose syllabuses have been developed by the NSW Board of Studies.

Board Endorsed courses
Board Endorsed courses are courses whose syllabuses have been approved by the NSW Board of Studies but which do not have formal examinations conducted by the NSW Board of Studies.

ATAR courses
ATAR courses are Board Developed courses for which there are examinations conducted by the NSW Board of Studies that yield graded assessments. VET courses for which there are no written examinations and Life Skills courses are not ATAR courses.

HSC cohort
HSC cohort refers to students who have completed at least one ATAR course in a particular year.

SC cohort
SC cohort refers to students who completed the School Certificate Examination in a particular year.

ATAR cohort

ATAR cohort is used to refer to those students who received an ATAR in a particular year. The students may have accumulated courses over a five-year period.

ABS

Australian Bureau of Statistics.

VET examination courses

The VET Curriculum Frameworks are based on training packages where the assessment is competency based. As competence-based assessment does not yield a mark that can be used in the ATAR calculations the NSW Board of Studies introduced, for each VET Curriculum Framework, an additional course that includes an examination. If students wish to have a VET course contribute to their ATAR, they must enrol in the appropriate additional course and complete the examination. These additional courses are termed VET examination courses. Students who do not want their VET courses to contribute towards their ATARs are not required to complete these optional examinations.

1 The Higher School Certificate (HSC)

The HSC is an exit certificate awarded and issued by the NSW Board of Studies. It marks the completion of 13 years of schooling, is the gateway to further study and employment, and presents a profile of student achievement in a set of courses.

1.1 Eligibility for an HSC

To qualify for an HSC, students must complete a pattern of Preliminary and HSC courses containing at least 12 units of Preliminary courses and at least 10 units of HSC courses.

These HSC courses must include at least:

- six units of Board Developed courses
- two units of a Board Developed course in English
- three courses of two-unit value or greater (either Board Developed or Board Endorsed courses)
- four subjects.

Further details about HSC eligibility and HSC courses can be found in the *Assessment, Certification and Examination Manual*, and in the booklet *Rules and Procedures for Higher School Certificate Candidates*, which are published annually by the Board, and are available on the Board's website, www.boardofstudies.nsw.edu.au.

1.2 Reporting student achievement in the HSC

For most ATAR courses, the Board reports student achievement against published standards by:

- an examination mark
- a school assessment
- an HSC mark
- a Performance Band.

These results are shown on a student's Record of Achievement. For most Board Developed courses, a Course Report is also provided which describes, using Performance Bands, the standard achieved in the course and provides a graph indicating the student's position in the course candidature.

1.2.1 Defining standards by Performance Bands

Standards in a course are described in terms of the content, skills, concepts and principles relevant to the course and represent the range of achievement expected of students completing the course. Performance Band descriptors, which describe typical achievement at different standards (Bands) have been developed for each course. There are six Performance Bands for 2-unit courses and four Performance Bands for Extension courses.

The percentage of students in any Performance Band depends only on how many students enrolled in that course perform at the standard specified by the Performance Band descriptor. There are no predetermined percentages of students to be placed in the Performance Bands.

It follows that, although the standards described by the Performance Bands in a course will be the same from year to year, **standards in different courses are not the same as they are based on different criteria.** Because of this it should not be expected that the percentages of students in the six Bands will be the same across courses. For any course the percentages may also vary from year to year if student performance changes.

The range of marks for the Bands are as follows:

2-unit courses

Band	1	2	3	4	5	6
Mark range	0-49	50-59	60-69	70-79	80-89	90-100

Extension courses (except Mathematics Extension 2)

Band	E1	E2	E3	E4
Mark range	0-24	25-34	35-44	45-50

*Mathematics Extension 2**

Band	E1	E2	E3	E4
Mark range	0-49	50-69	70-89	90-100

** Mathematics Extension 2 students have their achievement for both Mathematics Extension 1 and Mathematics Extension 2 reported using four Bands but the mark range is out of 100 rather than 50.*

1.2.2 Examination marks

The examination mark reported on a student's Record of Achievement indicates the standard a student has attained in that examination. If, for example, a student's performance in the Society and Culture examination is at the standard described for Band 3, the examination mark reported on their Record of Achievement for that course will lie between 60 and 69. **This mark, termed the aligned examination mark, will generally differ from the mark the student actually gained on the examination (the raw examination mark).**

What the aligned mark indicates is the standard reached by a student and their position in the Performance Band. For example, a mark of 62 means that, while the student has performed at a Performance Band 3 standard, their achievement is towards the bottom of this Band.

1.2.3 School assessments

To enable school assessments from different schools to be compared, marks submitted by schools (raw assessments) are first moderated using the raw examination marks gained by their students and then aligned to course standards. The school assessments reported on a student's Record of Achievement are the aligned assessments.

Although school assessments are moderated and then aligned against standards, a school's rank order of students in a course is maintained.

1.2.4 HSC marks

For each course, students receive three marks, an examination mark, a school assessment and an HSC mark, all of which have been aligned to the Board's published standards and rounded to whole numbers. **The HSC mark is the average of the examination mark and the school assessment.** It is the HSC mark that determines a student's Performance Band for the course.

Further details about the Board's processes can be found in Board Bulletins, in *The Media Guide 2009* and on the Board's website, www.boardofstudies.nsw.edu.au.

2 The Australian Tertiary Admission Rank (ATAR) – an overview

2.1 Background

The ATAR is a numerical measure of a student's overall academic achievement in the HSC in relation to that of other students. This measure allows the overall achievement of students who have completed different combinations of HSC courses to be compared. The ATAR is calculated solely for use by tertiary institutions, either on its own or in conjunction with other criteria, to rank and select school leavers for admission. Calculation of the ATAR is the responsibility of the Technical Committee on Scaling on behalf of the NSW Vice-Chancellors' Committee (NSWVCC).

From 1998 to 2008 overall academic achievement by students in NSW and the ACT was reported via the Universities Admission Index (UAI). The ranking indices used in other states had different names. The Australasian Conference of Tertiary Admission Centres (ACTAC) agreed to adopt a common name for the ranking index, the Australian Tertiary Admissions Rank (ATAR), across all states and territories (except Queensland). The name change was to emphasise the common scale used for reporting student ranks. NSW and the ACT adopted the new name in 2009. All states, except Queensland, will be using the new name in 2010.

The NSWVCC made two additional changes in 2009 to ensure consistency of the distribution of NSW ranks with those of other states and territories.

The first change was to truncate students' percentiles, rather than rounding to the nearest 0.05, so that the maximum rank would be 99.95. This reflects current practice in the other states.

The second change was to modify the reference population so that it more closely resembled the full age cohort used by other jurisdictions. This was achieved by reporting students' ranks against the cohort of students who entered Year 7 with them six years before.

Previously in NSW, the reference age cohort for an HSC group was the group of students who completed the School Certificate examination two years earlier. The School Certificate examination provides the link that allows the positions of HSC students relative to their Year 10 group to be estimated from their positions relative to their Year 12 group. From 2009 the School Certificate group will be augmented to more accurately reflect the corresponding Year 7 cohort that is used in other states.

The ATAR, which aims to provide a fair and equitable method of ranking out-of-state applicants, is based on the assumption that the age cohorts from which the states' HSC cohorts are drawn are equally able to undertake tertiary study. That is, if everyone in the age group completed Year 12, it would be fair to consider the same proportion of each state's students for admission to any particular university course.

The result of this procedure is a number which represents the position of a student in the appropriate age cohort, based on their overall academic achievement in the HSC.

The ATAR is reported as a number between 0 and 99.95 with increments of 0.05. The ATAR is not a mark. Specifically, a student's ATAR indicates the position of that student relative to their Year 7 cohort. Students who receive an ATAR of 80.00 in 2009, for example, have performed well enough in the HSC to place them 20% from the top of their Year 7 cohort, if all the 2004 Year 7 students completed Year 12 and were eligible for an ATAR in 2009.

Students who indicate on their HSC entry forms that they wish to be notified of their ATARs receive an ATAR Advice Notice from UAC. ATARs are also made available to institutions for selection purposes.

2.2 Categorisation of ATAR courses

ATAR courses are assessed by formal examinations conducted by the Board and have sufficient academic rigour to be regarded as suitable preparation for university study.

ATAR courses are classified as either Category A or Category B courses. The criteria for Category A courses are academic rigour, depth of knowledge, the degree to which the course contributes to assumed knowledge for tertiary studies, and the coherence with other courses included in the ATAR calculations. Category B courses are those whose level of cognitive and performance demands are not regarded as satisfactory in themselves, but their contribution to a selection index is regarded as adequate if the other courses included in the aggregate are more academically demanding.

In 2009 the Category B courses were:

- Accounting[1]
- Automotive Examination
- Business Services Examination
- Construction Examination
- Electrotechnology Examination
- Entertainment Examination
- Hospitality Examination
- Industrial Technology
- Information Technology Examination
- Metal and Engineering Examination
- Primary Industries Examination
- Retail Operations Examination
- Tourism Examination.

[1] *A Board Developed course delivered by TAFE.*

2.3 Eligibility for an ATAR

To be eligible for an ATAR a student must have satisfactorily completed at least 10 units of ATAR courses, which included at least:

- eight units of Category A courses
- two units of English
- three courses of two units or greater
- four subjects.

2.4 Calculation of the ATAR

The ATAR is based on an aggregate of scaled marks in 10 units of ATAR courses comprising:

- the best two units of English
- the best eight units from the remaining units, which can include up to two units of Category B courses

Marks to be included in the ATAR calculations can be accumulated over a five year period but if a course is repeated, only the last satisfactory attempt is used in the calculation of the ATAR.

For students accumulating courses towards their HSC, scaled marks are calculated the year the courses are completed.

2.5 The ATAR Advice Notice

The ATAR Advice Notice includes:

- the student's ATAR
- a list of the ATAR courses which the student studied and the categorisation of each course
- the number of units of each ATAR course that were actually included in the calculation of the ATAR.

While ATARs are calculated for all ATAR-eligible students, only those students who indicate on their HSC entry forms that they wish to be notified of their ATAR will receive an ATAR Advice Notice from UAC.

There are two circumstances where an ATAR will not be shown on the ATAR Advice Notice. The first is when a student receives an ATAR between 0.00 and 30.00, in which case the ATAR will be indicated as "30 or less". The second is when the student has not met the requirements for an ATAR, in which case the statement "Not Eligible" will appear.

An example of an ATAR Advice Notice is given below.

2009 Australian Tertiary Admission Rank Advice

Your Australian Tertiary Admission Rank (ATAR): 74:30 *SEVEN*FOUR***THREE*ZERO

Course name	Category	Year completed	Unit value	Units included in calculation of ATAR
Business Studies	A	2009	1	1
English Standard	A	2009	2	2
Mathematics	A	2009	2	2
Studies of Religion I	A	2009	1	0
French Continuers	A	2009	2	2
French Extension	A	2009	1	1
Hospitality Examination	B	2009	2	2

3 Calculating the ATAR in 2009

3.1 Overview

Tertiary institutions are concerned with ranking school leaver applicants. From their perspective, the importance of HSC marks is that they convey information about a student's position in relation to other students.

With the exception of English, which is compulsory, HSC students are free to choose their courses. Consequently, individual course candidatures vary in size and nature, and there are many different enrolment patterns. In 2009 there were 27 661 different enrolment patterns for ATAR-eligible students; only 197 of these 27 661 combinations were completed by 18 or more students and 20 386 were taken by only one student. Given the choice available, it follows that a student's rank in different courses will not necessarily have the same meaning, as good rankings are more difficult to obtain when the student is competing against students of high academic ability.

Because of the lack of comparability of HSC marks achieved in different courses, either when reported against standards or in terms of ranking, marks of individual students are scaled before they are added to give the aggregates from which the ATAR is determined.

The scaling process is designed to encourage students to take the courses for which they are best suited and which best prepare them for their future studies. The underlying principle is that a student should neither be advantaged nor disadvantaged by choosing one HSC course over another. The scaling algorithm estimates what students' marks would have been if all courses had been studied by all students.

The scaling model assumes that a student's position in a course depends on the student's developed ability in that course and the "strength of the competition". Since the ATAR is a rank that reflects academic achievement, "strength of the competition" is defined in terms of the demonstrated overall academic attainment of a course candidature.

Scaling first modifies the mean, the standard deviation and the maximum mark in each course. Adjustments are then made to the marks of individual students to produce scaled marks, which are the marks the students would have received if all courses had the same candidature.

Although scaled marks are generally different from the raw marks from which they are derived, the ranking of students within a course is not changed.

Once the raw marks have been scaled, aggregates are calculated for ATAR-eligible students. Percentiles, which indicate the ranking of students with respect to other ATAR-eligible students, are then determined on the basis of these aggregates. In most cases, the ranking or order of merit based on these aggregates is quite different from the order of merit using aggregates based on HSC marks.

The penultimate step is to determine what the percentiles would have been if all students in their Year 7 cohort completed Year 12 and were eligible for an ATAR five years later. The last step is to truncate these percentiles to the nearest 0.05. These are the ATARs.

Each ATAR corresponds to a range of aggregates and the number of students with each ATAR varies, depending in part on how many candidates tie on the same aggregate.

The scaling process, which does not assume that one course is intrinsically more difficult than another or that the quality of the course candidature is always the same, is carried out afresh each year.

All students who complete at least one ATAR course in a given year are included in the scaling process for that year. Students who are accumulating courses towards their HSC have their scaled marks calculated in the year the courses are completed.

3.2 The scaling process in 2009

The scaling procedure used to produce the aggregates in 2009 was unchanged from that used in 2008.

3.2.1 Marks used in the ATAR calculations

For each course a student completes, the Board provides the following marks:

- a raw examination mark
- a raw moderated school assessment[1]
- an examination mark, which has been aligned to course standards
- a school assessment, which has been aligned to course standards
- an HSC mark.

1 These are school assessments that have been moderated using the raw examination marks.

All marks are provided on a one-unit basis to one decimal place. In the description of the scaling process that follows, to cater for both 2-unit and Extension courses, marks are described on a one-unit basis.

3.2.2 Raw HSC marks

Raw HSC marks, rather than the Board's reported HSC marks, are used in the scaling process. **A student's raw HSC mark in a course is the average of their raw examination mark and their raw moderated school assessment.** These marks are not reported to students.

3.2.3 Combined courses

As the Board places English Standard and English Advanced raw marks on a common scale, these courses are combined and scaled as a single course, but are reported as separate courses in order to be consistent with the Board's reporting practice. The two Distinction courses are also combined and scaled as a single course.

3.2.4 Initial standardisation

Before the scaling algorithm is implemented, a linear transformation is applied to the raw HSC marks in each course to set the top mark to a common value. The marks in each course are then standardised to a mean of 25 and standard deviation of 12 on a one-unit basis.

3.2.5 Calculating scaled means and standard deviations

The model underpinning the scaling algorithm specifies that the scaled mean in a course is equal to the average academic achievement of the course candidature where, for individual students, the measure of academic achievement is taken as the average scaled mark in all courses completed. The model specification leads to a set of simultaneous equations from which the scaled means of 2-unit courses are calculated.

The scaled standard deviation for a 2-unit course is the standard deviation of the measure of overall academic achievement of the candidature of that course.

For Extension courses the scaled means and standard deviations are determined by the performance of the Extension students on the corresponding 2-unit courses. The exceptions are History Extension which can be completed by both Modern History and Ancient History students, and the second Extension courses in English and Mathematics: English Extension 2 and Mathematics Extension 2.

A scaled mean is determined for the Modern History students in History Extension on the basis of their performance in the 2-unit Modern History course. A scaled mean for the Ancient History students in History Extension is found in a similar manner. The scaled mean for History

Extension is then set equal to the weighted average of these two scaled means. The scaled standard deviation is found in a similar manner.

Scaled means and standard deviations for English and Mathematics Extension 1 courses are calculated as described above. The scaled mean and standard deviation for the Mathematics Extension 2 course are then determined by the performance of the Extension 2 students in the Mathematics Extension 1 course. For English Extension 2, the scaled mean and standard deviation are determined by the performance of the Extension 2 students in English Advanced. (This option is not available for Mathematics as the Extension 2 students do not complete the Mathematics 2-unit paper.)

3.2.6 Setting maximum marks

The maximum possible scaled mark in a course is determined according to the academic quality of the course candidature in such a way that the maximum possible scaled mark for the combined 2-unit English candidature is 50 on a one-unit basis.

In 2009 the maximum possible scaled mark in a course was given by the smaller of 50 and the scaled mean + 2.49 times the initial scaled standard deviation, where the scaled mean and initial scaled standard deviation of the course are determined using the scaling algorithm.

The number, 2.49, was determined on the basis that the maximum possible scaled mark in the combined 2-unit English course is 50. This number is calculated afresh each year.

3.2.7 Scaling individual marks

Once the scaled means and standard deviations are determined, individual raw marks are scaled using a non-linear transformation which preserves the scaled mean and standard deviation of a course and restricts the scaled marks to the range (0–50).

If the actual maximum scaled mark in a course is less than the maximum possible scaled mark, a further linear transformation is applied. The effect of this linear transformation is that, while the scaled mean for a course is not changed, the standard deviation is modified so that the actual maximum scaled mark in the course is the same as the maximum possible scaled mark. In all tables presented in this report the modified scaled standard deviations rather than the initial scaled standard deviations are shown.

For some courses with very small candidatures the non-linear transformation is not always appropriate, in which case alternative transformations, which are consistent with the principles of the scaling algorithm, are used.

3.2.8 Calculating aggregates and ATAR-eligible percentiles

Aggregates of scaled marks are calculated to one decimal place according to the rules described in section 2.4. ATAR-eligible percentiles, which show the position of students relative to their ATAR cohort, are then determined for these aggregates. The ATAR-eligible percentile corresponding to a particular aggregate is the percentage of the ATAR cohort who received an aggregate mark less than or equal to that aggregate.

Table 3.1 shows the ATAR-percentiles corresponding to selected aggregates for the 2009 ATAR cohort. From the table it can be seen that, for example, 77% of the 2009 ATAR cohort received an aggregate mark of 350 or less.

Table 3.1 ATAR-eligible percentiles corresponding to selected aggregates: 2009

Aggregate	ATAR-eligible percentile
450.0	98.5
400.0	90.8
350.0	77.0
300.0	60.0
250.0	42.2
200.0	25.6
150.0	12.5

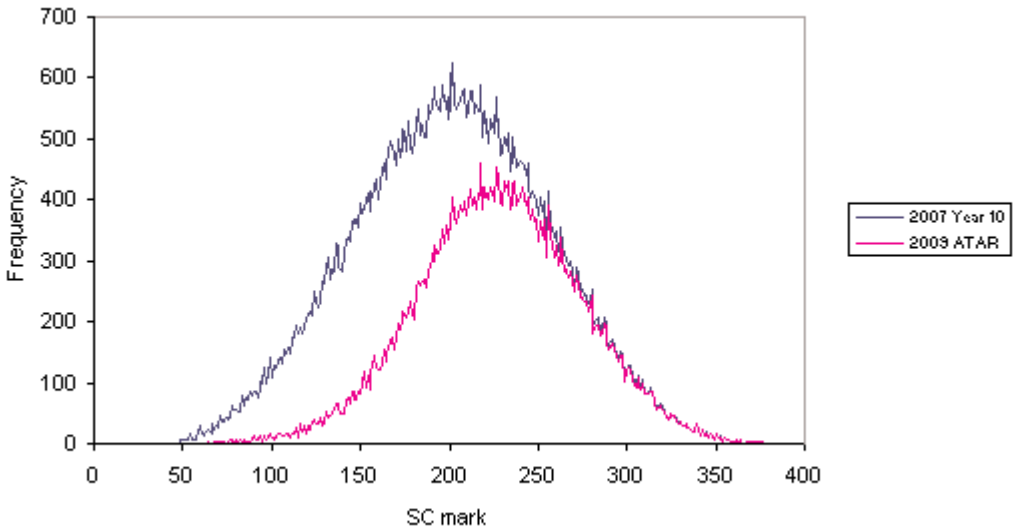
3.2.9 Calculating the ATAR – establishing the link

The percentiles that have been calculated show students' positions relative to their 2009 ATAR cohort. The next step is to relate the ATAR eligible cohort to the 2007 School Certificate (SC) cohort. An observed score equating procedure is employed using the SC examination as the anchor variable.

A total SC mark is first calculated for each student. In 2007 the SC Examination had four papers (English, Mathematics, Science, and Australian History and Geography), so the maximum possible SC mark was 400. Of the 52 402 students in the 2009 ATAR cohort, 47 536 had completed the SC Examination in 2007; 59.4% of the 80 074 students in the 2007 SC cohort.

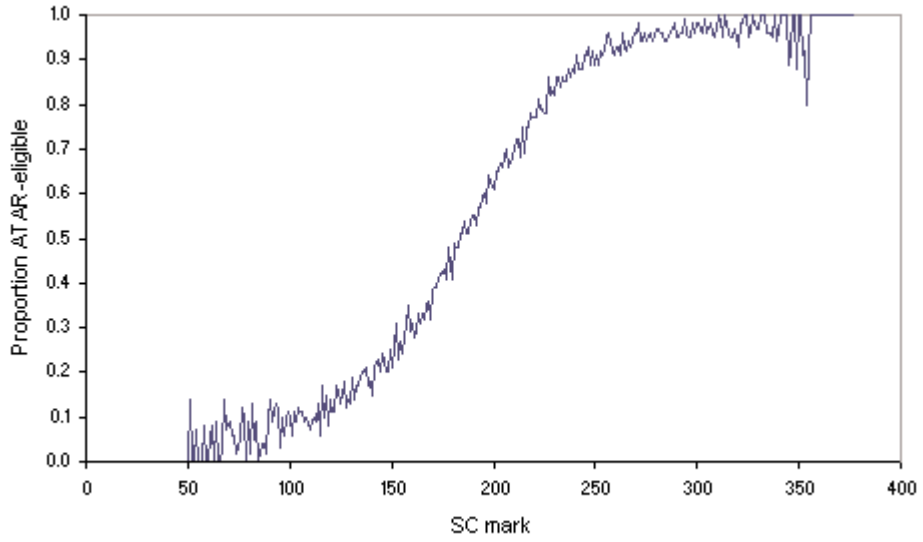
The next step is to calculate frequency distributions of the SC mark for all 2007 Year 10 students and for those who were eligible for an ATAR in 2009. The differences in the two frequency distributions (Figure 3.1) show that the 2007 Year 10 students who were eligible for an ATAR in 2009 were generally academically more able than the total 2007 SC cohort.

Figure 3.1 Frequency distributions of SC marks for the 2007 Year 10 cohort and for students who were also in the 2009 ATAR cohort



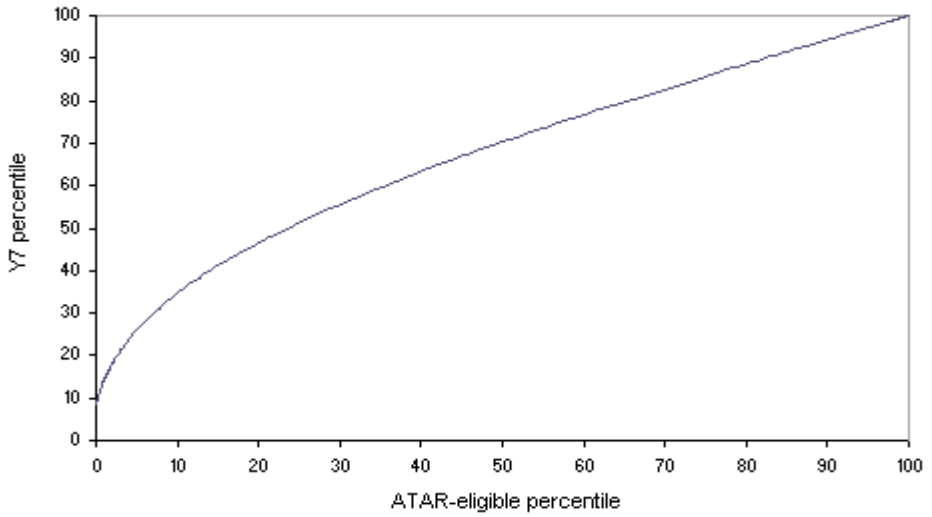
Another way of presenting the data is to calculate the proportion of students on each SC mark in 2007 who subsequently gained an ATAR in 2009 and plot the proportions against corresponding SC marks. The resultant graph (Figure 3.2) shows that the likelihood of 2007 Year 10 students continuing with their schooling and being eligible for an ATAR in 2009 increases with SC mark.

Figure 3.2 Proportion of the 2007 Year 10 cohort also in the 2009 ATAR cohort by SC mark



The data underlying Figure 3.1 are then used to link a student's position relative to their 2009 ATAR cohort, their ATAR-eligible percentile, with their position relative to their 2004 Year 7 cohort, their Y7 percentile (Figure 3.3). This is done by augmenting the 2007 SC cohort with 7 128 fictitious students allocated a SC mark of 1. The extra 7 128 students bring the size of the cohort into agreement with the size of the 2004 Year 7 population as reported by the Australian Bureau of Statistics (ABS). The early-leavers are incorporated into the process by assuming that, had they completed the SC, their performance would be lower than the performance of the corresponding SC cohort. This is a simplistic assumption which cannot be fully tested.

Figure 3.3 Relationship between ATAR-eligible and Y7 percentiles



This link is determined by calculating, for each SC mark:

- the percentage of the Y7 cohort who have a SC mark less than or equal to the given SC mark (Y7 percentile), and
- the percentage of those who were also in the 2009 ATAR cohort who had an SC mark less than or equal to the given SC mark (ATAR-eligible percentile).

The relationship between the two sets of percentages is shown in Table 3.2 for a selected set of ATAR-eligible percentiles. In this table, the percentiles have been rounded to one decimal place but for the actual calculations they are not rounded.

Table 3.2 Relationship between ATAR-eligible percentiles and Y7 percentiles

ATAR-eligible percentile	Y7 percentile
99.0	99.4
90.0	94.4
80.0	88.7
70.0	82.8
60.0	76.7
50.0	70.3
40.0	63.3
30.0	55.5
20.0	46.5
15.0	41.2

These equivalences show, for example, that students who were better than 90.0% of the 2009 ATAR-eligible cohort would have been better than 94.4% of the 2004 Year 7 cohort.

3.2.10 Calculating the ATAR – the final step

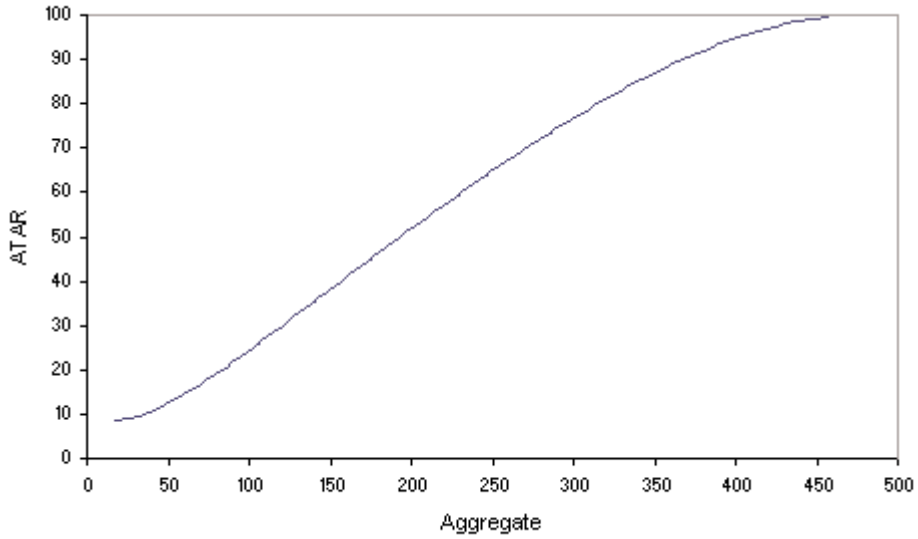
The last step is to determine the relationship between aggregate and Y7 percentile. This is done by converting the ATAR-eligible percentiles found in section 3.2.8 to Y7 percentiles using the equivalences from section 3.2.9. When truncated to the nearest 0.05, these Y7 percentiles become the ATARs.

The relationship between aggregate and ATAR is shown graphically in Figure 3.4 and, for selected aggregates, in Table 3.3.

Table 3.3 Relationship between aggregate and ATAR

Aggregate	ATAR
450.0	99.15
400.0	94.80
350.0	86.90
300.0	76.65
250.0	64.90
200.0	51.80
150.0	38.00

Figure 3.4 Relationship between aggregate and ATAR



The following example uses data from Tables 3.1 and 3.2 to illustrate the procedure. In the actual ATAR calculations the full data set is used, not just the data presented in these tables. The ATAR estimated from data presented in these tables will only be an estimate of the actual ATAR which is calculated using the full data set.

Table 3.1 shows that students with an aggregate of 350.0 performed well enough in the HSC to be 23% from the top of the 2009 ATAR cohort; a percentile of 77.0. From Table 3.2 we can estimate by linear interpolation that students who are at the 77.0th percentile of the ATAR-eligible cohort are at the 86.93th percentile of the 2004 Year 7 cohort. This means that students with an aggregate of 350.0 have performed well enough in the HSC to be at the 86.93th percentile of their Year 7 cohort. Their percentile is truncated, giving an estimated ATAR of 86.90.

4 The HSC and ATAR in 2009 – some results

4.1 Overview

In 2009 a total of 68 142 students completed at least one HSC course, but 1 530 were removed from the database as they completed no ATAR course in 2009. Of the remaining pool of 66 612 students 93.5% received an HSC and 78.7% received an ATAR. Only 31 students who received an ATAR were not eligible for the HSC. While courses contributing to the underlying aggregate may be accumulated over a five year period, 96.4% of those receiving an ATAR in 2009 included only 2009 courses in their aggregate.

The percentage of students enrolled in at least one ATAR course who were female (51.9%) was similar to that of previous years, as was the percentage of students who received an ATAR that were female (53.5%).

4.2 Percentage of students receiving an ATAR

HSC students who do not receive an ATAR fall into one of two broad groups:

1. Those who are studying less than 10 units. These include private study students who enrol in one or two courses, mature-age students who are studying a limited HSC program and students who are accumulating their HSC over two or more years.

2. Those who enrol in a full HSC program which does not satisfy the requirements for an ATAR. These students normally complete six or eight units of Board Developed courses, and choose the remaining units from Board Endorsed courses. They receive an HSC but not an ATAR. In 2009 there were 9 913 such students.

Table 4.1 Percentage of students receiving an ATAR/UAI: 2001–2009

Year	HSC candidature	Students receiving an ATAR/UAI	
		Number	%
2001	60 788	49 782	81.9
2002	63 120	51 648	81.8
2003	63 387	51 736	81.6
2004	64 267	51 999	80.9
2005	63 867	51 461	80.6
2006	64 274	50 744	78.9
2007	65 005	51 036	78.5
2008	65 757	51 978	79.0
2009	66 612	52 402	78.7

4.3 Number of units of ATAR courses completed

The pattern in 2009 was similar to that observed in 2008, with 43.2% completing exactly 10 ATAR units and 36.5% completing more than the required minimum number of ATAR units (Table 4.2).

Table 4.2 Percentage of students completing specified numbers of units[1] of ATAR courses: 2006 –2009

Number of units	2006 %	2007 %	2008 %	2009 %	2009 Number
1	0.03	0.05	0.1	0.2	127
2	3.2	3.4	3.3	3.7	2 467
3	0.3	0.3	0.3	0.3	206
4	2.9	3.0	2.9	3.2	2 128
5	0.1	0.2	0.1	0.1	88
6	5.6	6.0	5.8	5.9	3 904
7	0.2	0.2	0.2	0.2	138
8	7.1	6.8	6.7	6.3	4 179
9	0.5	0.5	0.4	0.4	272
10	41.8	41.5	42.9	43.2	28 798
11	20.0	20.1	19.6	19.2	12 814
12	15.6	15.2	15.0	14.9	9 898
13	2.1	2.2	2.1	1.9	1 285
14	0.4	0.4	0.4	0.3	230
15+	0.1	0.1	0.1	0.1	78
HSC cohort	**64 274**	**65 005**	**65 757**	-	**66 612**

[1] *The units include current year units and units accumulated in previous years.*

4.4 Course enrolments – Table A1

Table A1 on page 31 provides the size of the candidature, the percentage of females and the maximum ATAR gained by a student enrolled in each course. The table includes students who have completed the course in 2009 and in previous years but excludes courses where there were less than 10 students and small courses with less than 50% ATAR-eligible.

What is clear is that in almost all courses some students gained an ATAR in excess of 95.00, and for the majority of courses the maximum ATAR is higher.

The pattern of "male-dominated" and "female dominated" courses was similar to the pattern exhibited previously. Female students were in the majority in languages, creative arts and the humanities, while males were in the majority in technology and computing courses.

A total of 17 344 students enrolled in at least one VET course, of whom 12 919 students enrolled in a VET examination course. These figures are similar to the corresponding numbers for 2008 (16 770 and 12 741 respectively). Two new VET courses were examined in 2009; Automotive and Electrotechnology.

Overall, 78.7% of the 2009 HSC cohort received ATARs but the percentage varied across courses, from 60.5% to 99.5% for Category A courses with candidatures exceeding 100. For students enrolled in any VET courses the overall figure was 57.1% but was higher, 75.6%, for students enrolled in VET examination courses.

4.5 Distributions of HSC marks – Table A2

Table A2 on page 34 shows the distributions of HSC marks in 2009. For each course the percentage of students in Bands 2 to 6 are given, together with the median HSC mark and the Band in which the median lies. Data are not provided for courses with less than 10 students.

Since the introduction of standards referenced reporting in 2001, marks reported to students have not been constrained to a set distribution. Students demonstrating the highest level of achievement in a 2-unit course are placed in Band 6 and receive HSC marks of 90 and above. The data show clearly that patterns of HSC marks vary across courses.

There are few students in Band 1. For most 2-unit courses the median lies in Band 4.

Comparison of Table A2 with the corresponding table in 2008 shows that distribution of HSC marks has changed for some courses. This is not surprising, and will be discussed in section 5.1.

4.6 Descriptive statistics of HSC and scaled marks – Table A3

Table A3 on page 37 presents, for each course, descriptive statistics and the 99th, 90th, 75th, 50th and 25th percentiles for HSC and scaled marks. Data are not provided for courses with less than 10 students. Percentiles are not included for courses with less than 40 students.

Although HSC marks are not used as the basis for scaling they are shown in Table A3, because raw marks are not released to students or teachers and hence cannot be presented in this report. Scaled marks are generally lower than HSC marks: few students receive HSC marks less than 25 (on a one-unit basis), whereas the average scaled mark for the total HSC candidature is approximately 25.

In the table, marks are shown on a one-unit basis, so the range is 0 to 50. The percentiles in a course are based on all students completing that course in 2009 irrespective of whether they were eligible for an ATAR or not.

When reading the table it must be remembered that an HSC mark indicates a standard reached whereas a scaled mark indicates a student's position in the course candidature if all students had completed that course. Because HSC marks and scaled marks serve different purposes, comparing HSC and scaled marks is of little value, and can lead to misinterpretations that may affect student choices of courses to study.

Table A3 should not be used as a simple HSC to scaled mark conversion table for reasons explained below.

The Board reports HSC marks rounded to the nearest integer, whereas raw marks are calculated to one decimal place. The Board aligns the raw marks to bands that best describe the standards that the students achieve. This can compress a range of raw marks to a smaller number of HSC marks. For example, all Band E4 performances in an Extension course (except for Mathematics Extension 2) are allocated one of the six integer grades 45.0 to 50.0. Thus after aligning and rounding, for each HSC mark there can be a range of raw marks and hence a range of scaled marks. There is, in general, no unique scaled mark for an HSC mark.

A given HSC mark often corresponds to a range of raw and scaled marks and hence to a range of percentiles. Table A3 gives the HSC mark at the specified percentile. Not all students with that HSC mark will be at that percentile when the raw marks are considered. For example in Latin Extension the HSC mark at the 75th percentile was 48.0. Students with a Latin Extension HSC mark of 48.0 in fact corresponded to the scaled mark percentile range 53.9 to 81.4.

The scaled marks reported in Table A3 are the scaled marks at the specified percentiles. The 75th percentile of the scaled mark distribution in Latin Extension was 46.1 but there was a range of scaled marks achieved by those with an HSC mark of 48.0.

Looking at French Extension in Table A3 we see that the 99th and 90th percentiles of the HSC distribution are both 48.0 whereas the scaled marks at the corresponding percentiles are 48.5 and 46.6.

The primary purpose of Table A3 is to show the relativities between courses.

For example, Table 4.3 shows the scaled marks corresponding to the 75th and 90th percentiles for Geography, Legal Studies and Music 2.

Table 4.3 Scaled marks for selected percentiles

Course	Scaled mean	Scaled mark for P_{90}	Scaled mark for P_{75}
Geography	25.5	39.3	33.5
Legal Studies	25.4	39.3	33.8
Music 2	32.9	43.5	39.0

Geography and Legal Studies have similar scaled means and similar scaled marks corresponding to the 75th and 90th percentiles. Music 2 has a higher scaled mean and higher scaled marks at the two percentiles. The table also shows that Geography and Legal Studies students in the top 10% of their candidatures have scaled marks comparable to those obtained by students in the top 25% of the Music 2 candidature.

4.7 Distribution of ATARs

An ATAR of 99.00 does **not** represent the top 1% of the ATAR cohort; 1.8% of the 2009 ATAR cohort actually gained an ATAR of 99.00 or above. It does, however, represent the level of achievement necessary to be in the top 1% of the 2004 Year 7 cohort if all those students continued to Year 12 and been eligible for an ATAR in 2009.

In 2009, 48 students received the top ATAR of 99.95, 23 males and 25 females, from a mix of government and independent schools.

ATARs are **not** evenly distributed (see Table A7 on page 53). For most ATARs the number of students on that ATAR lies between 20 and 50. The number of students is less for lower ATARs.

The median ATAR in 2009 was 70.25. In 2009, 17.6% of ATAR-eligible students received an ATAR of 90.00 or above and 34.6% gained an ATAR of 80.00 and above.

Table 4.4 Percentage of ATAR students receiving specific ATARs and above: 2009

ATAR	2009 %
99.00	1.8
95.00	8.9
90.00	17.6
80.00	34.6
70.00	50.4
60.00	64.4
50.00	76.4

4.8 Gender differences

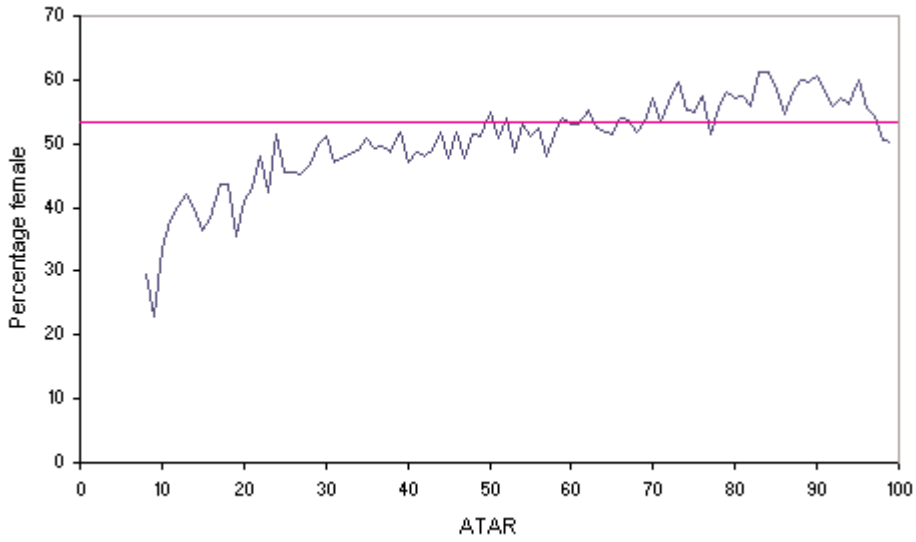
As in previous years, female students outperformed male students in the majority of courses and had a higher average ATAR. The percentages of students receiving ATARs on or above specified values who were female are given in Table 4.5.

Table 4.5 Percentage of students receiving ATARs on or above specified values who were female: 2009

ATAR	2009 % female
99.00	50.2
98.00	50.4
95.00	54.2
90.00	55.9
80.00	57.1
70.00	56.7
60.00	55.9
50.00	55.3
40.00	54.6
30.00	54.2
Total cohort	53.5

Figure 4.1 shows the percentage of students on each ATAR who were female. For this graph the ATARs have been truncated, so that an ATAR of 90, for example, includes ATARs from 90.00 to 90.95. Overall 53.5% of the ATAR cohort was female, which is represented by the horizontal line on the graph. The graph shows clearly that there were proportionally more females on ATARs above 70.00 than males.

Figure 4.1 Percentage of students on each ATAR who were female



4.9 University offers

UAC makes several rounds of offers: first the October, November, December and Early January rounds, then the Main Round, which is followed by the Early February and Final rounds. In this report *offer* refers to offers made in any of the rounds.

Of the 52 402 students who received an ATAR in 2009, 74.1% applied through UAC for a university course. Of these applicants 85.4% were made at least one offer of a place. Table 4.6 provides a breakdown of applicants by ATAR band.

Table 4.6 Applicants for university places by ATAR

ATAR band	Total number of students	Applicants		Offers	
		Number	Percentage[1]	Number	Percentage[2]
90.00 – 99.95	9 245	8 711	94.2	8 698	99.9
80.00 – 89.95	8 878	8 185	92.2	8 154	99.6
70.00 – 79.95	8 295	7 193	86.7	7 030	97.7
60.00 – 69.95	7 317	5 755	78.7	5 300	92.1
50.00 – 59.95	6 284	4 169	66.3	2 872	68.9
Below 50.00	12 383	4 818	38.9	1 092	22.7
Total	52 402	38 831	74.1	33 146	85.4

1 These are percentages of the number of students in the given ATAR band.
2 These are percentages of the number of applicants in the given ATAR band.

Not all the applicants have been ranked solely on the basis of their ATARs. For some programs alternative criteria have been used, while for other programs students' ATARs have been supplemented by additional criteria.

Table 4.6 above shows an obvious relationship between the ATAR and the probability of an offer.

5 Trends and other issues

5.1 Variation in patterns of HSC marks – Tables A4, A5

A concern frequently raised by parents and students is that the observed variation in the patterns of HSC marks across different courses affects scaling and hence the ATAR calculation. HSC marks that the Board uses to report student achievement are not used in the scaling process so any variation in the distribution of these marks does not affect the ATAR calculation at all.

A related question is whether changes in the pattern of HSC marks from one year to the next affect the pattern of scaled marks and hence the pattern of ATARs. For the reason given above, the answer is also no. It is to be expected that the patterns of HSC marks may change from year to year, reflecting differences in student achievement (against the published standards) in individual courses. In contrast, one would expect to see differences in the patterns of scaled marks only if the overall academic quality of a course candidature changed.

Tables A4 and A5 on pages 42 and 46 show the distributions of HSC and scaled marks, respectively, in 2009 and 2008. The marks are on a per-unit basis (0-50) and courses with less than 40 students are not included. Table A4 shows the percentages of each course candidature with an HSC mark less than 45, 40, 35, 30 and 25 for 2009 and 2008. Table A5 provides similar information for scaled marks. The data show clearly that while the distributions of HSC marks have changed for some courses, the distributions of scaled marks were generally the same.

Software Design & Development is an example of a course where there was virtually no change in candidature from 2008 but there is a change in the distribution of HSC marks (Table 5.1). The distributions of scaled marks in the two years were, however, similar.

Table 5.1 Distributions of HSC and scaled marks for Software Design & Development: 2008 and 2009, on a one-unit basis

Mark	Year	Enrolment	Percentage of students with marks less than:				
			45	40	35	30	25
HSC mark	2009	1 722	93.3	71.1	37.5	10.2	1.3
	2008	1 785	89.9	60.1	29.9	7.8	0.7
Scaled mark	2009	1 722	99.4	94.8	84.0	67.1	48.7
	2008	1 785	99.8	94.9	84.2	68.9	50.1

Taken together, the data indicate that the 2009 candidature in Software Design & Development performed worse than the corresponding cohort in 2008 in terms of Software Design & Development, but not in terms of their overall performance as judged by their scaled marks.

5.2 Distributions of English and Mathematics marks: 2006–2009

Because all students study English, and most study Mathematics, comparative data is shown for English and Mathematics courses for the four years, 2006 to 2009. Table 5.2 shows the changes in the distributions of HSC marks and Table 5.3 shows the changes in the distributions of scaled marks.

Table 5.2 Distribution of HSC marks for English and Mathematics courses: 2006–2009

Course	Year	Enrolment	Percentage of students with HSC marks less than:				
			45	40	35	30	25
English Standard	2009	32 454	99.8	94.6	63.8	22.5	7.2
	2008	32 191	99.8	94.0	61.9	20.6	5.8
	2007	31 015	99.9	96.6	61.2	22.0	5.7
	2006	30 470	99.9	96.7	66.1	19.4	4.8
English Advanced	2009	27 248	88.7	48.0	11.2	1.0	0.1
	2008	27 438	89.2	50.6	10.8	0.9	0.1
	2007	28 086	90.8	53.1	10.5	0.9	0.1
	2006	27 734	94.0	61.2	17.6	1.7	0.1
English Extension 1	2009	5 718	77.5	42.9	15.7	3.7	0.9
	2008	5 694	74.2	40.9	16.0	3.5	0.7
	2007	6 153	78.0	45.7	19.4	5.4	1.7
	2006	6 207	83.1	47.2	16.3	4.2	1.2
English Extension 2	2009	2 165	71.8	43.1	20.1	7.4	2.4
	2008	2 209	69.5	41.1	17.9	4.7	1.3
	2007	2 500	67.8	41.2	20.6	7.0	2.2
	2006	2 559	68.7	41.7	20.6	8.1	3.2
English as a Second Language	2009	3 248	97.3	78.2	43.8	14.4	2.9
	2008	2 837	96.7	71.8	40.1	14.1	4.2
	2007	2 603	98.0	72.3	36.0	11.8	4.6
	2006	2 763	98.8	78.1	38.2	14.9	5.2
General Mathematics	2009	29 909	94.1	75.1	45.4	18.4	6.6
	2008	29 977	95.2	74.1	43.7	17.2	6.1
	2007	29 437	95.9	77.4	40.5	15.8	3.5
	2006	29 248	96.9	82.1	50.1	23.0	7.5
Mathematics	2009	17 197	84.2	57.4	28.9	10.5	5.2
	2008	17 247	83.2	55.0	27.8	12.1	3.2
	2007	17 758	84.5	60.4	29.9	11.7	3.6
	2006	18 124	85.4	61.1	34.8	16.5	7.5
Mathematics Extension 1	2009	8 630	65.5	37.9	18.1	7.6	2.9
	2008	8 548	66.6	39.9	18.2	8.5	3.9
	2007	8 614	67.7	45.4	25.2	10.4	3.9
	2006	9 017	69.6	46.8	28.2	15.4	8.7
Mathematics Extension 2	2009	3 170	60.0	29.6	10.5	4.5	1.8
	2008	3 089	62.9	30.1	9.5	3.6	1.6
	2007	3 009	67.0	38.7	16.9	4.9	1.3
	2006	3 146	71.2	40.3	17.9	9.2	4.6

Table 5.3 Distribution of scaled marks for English and Mathematics courses: 2006–2009

Course	Year	Enrolment	Percentage of students with scaled marks less than:					
			45	40	35	30	25	20
English Standard	2009	32 454	99.9	99.6	97.7	92.3	80.1	61.1
	2008	32 191	99.9	99.5	97.7	91.9	80.1	61.0
	2007	31 015	99.9	99.6	97.9	93.2	82.8	63.7
	2006	30 470	99.9	99.7	98.0	93.2	82.1	62.3
English Advanced	2009	27 248	96.6	82.9	63.8	41.0	22.7	9.9
	2008	27 438	97.0	83.5	63.5	42.3	23.4	10.2
	2007	28 086	96.1	82.6	64.1	44.2	25.1	9.9
	2006	27 734	97.1	84.6	64.5	42.9	23.3	10.0
English Extension 1	2009	5 718	95.6	67.7	36.0	15.0	6.0	2.6
	2008	5 694	95.2	68.0	36.1	15.4	5.6	2.1
	2007	6 153	94.4	68.2	36.6	14.9	5.6	2.2
	2006	6 207	94.1	68.1	36.1	15.5	5.8	2.2
English Extension 2	2009	2 165	90.3	68.0	38.3	16.6	6.0	2.0
	2008	2 209	89.3	67.0	39.0	16.5	5.7	1.7
	2007	2 500	89.9	66.0	37.3	16.9	6.0	2.0
	2006	2 559	89.5	64.4	37.9	17.4	5.6	2.1
English as a Second Language	2009	3 248	99.4	95.0	86.4	76.0	61.9	48.3
	2008	2 837	98.6	93.2	85.0	73.3	59.4	45.7
	2007	2 603	98.9	94.7	86.1	74.3	60.8	47.2
	2006	2 763	98.7	94.3	85.3	74.9	61.2	46.9
General Mathematics	2009	29 909	99.9	98.0	90.3	77.8	63.0	47.2
	2008	29 977	99.9	98.1	90.3	77.9	62.5	46.4
	2007	29 437	99.9	98.7	91.3	78.7	63.9	47.0
	2006	29 248	99.9	98.3	91.1	79.6	64.6	47.8
Mathematics	2009	17 197	96.5	83.2	64.6	44.7	27.3	14.9
	2008	17 247	95.9	82.0	64.4	45.7	28.0	15.3
	2007	17 758	97.6	84.2	64.1	43.6	26.4	14.6
	2006	18 124	97.7	84.1	64.1	44.2	28.0	16.1
Mathematics Extension 1	2009	8 630	70.6	37.7	19.3	10.1	5.2	2.7
	2008	8 548	74.1	41.0	18.8	9.2	4.4	2.1
	2007	8 614	76.6	43.1	20.5	9.4	4.4	1.9
	2006	9 017	80.3	42.6	19.6	9.5	4.9	2.4
Mathematics Extension 2	2009	3 170	39.3	10.7	4.2	1.7	0.5	0.2
	2008	3 089	43.4	11.5	3.6	1.7	0.7	0.3
	2007	3 009	53.8	16.2	4.2	1.4	0.7	0.3
	2006	3 146	57.2	15.5	5.1	2.3	1.1	0.5

5.3 Courses that contribute to the ATAR – Table A6

There are three related questions regarding which courses contribute towards the ATAR.

- "Which courses will contribute to my ATAR?" which is normally asked in either Year 10 or Year 11 when students are choosing courses to study.
- "Why has this course contributed towards my ATAR rather than this other course?" which is asked when students receive their ATAR Advice Notices.
- "Do some groups of courses contribute to the ATAR less often than other groups of courses?", which is usually asked by teachers.

The first two questions are addressed in the next chapter of this report and in the *All About Your ATAR* booklet which is distributed to HSC students in December of each year and is available to download from UAC's website at www.uac.edu.au.

The third question, whether some courses or groups of courses contribute towards the ATAR less often than other courses, is usually asked by teachers. This is not an easy question to answer, because not all students complete the same number of units. If students complete only 10 units all courses *must* be counted, whereas if students complete more than 10 units at least one unit *will* be omitted.

Table A6 on page 50 provides some information about students who completed *more than 10 units*. Data are not provided for courses with less than 10 students.

For each course:

- the first column shows the total number of students who received an ATAR in 2009
- the second column shows the number of students who completed more than 10 units
- the third column expresses this number as a percentage
- the final column gives the percentage of students who counted all units of that course towards their ATAR. The percentage is based on the number of students who had completed more than 10 units in courses.

Of the 102 courses listed in Table A6, 68% have 70% or more of their students counting the course. The data also show that, while there are differences in the percentages of students who count a particular course towards their ATARs, there is no evidence of systematic differences across Key Learning Areas.

A further analysis has been completed of students who completed only 10 units of ATAR courses. For these students all their courses must contribute towards their ATAR so for each course, the percentage of students for whom the scaled mark in that course was their best scaled mark was calculated. The proportions of students for whom their scaled mark in that course was their second best, third best, fourth best and fifth best scaled mark were also calculated. The patterns of percentages were compared across individual courses and groups of courses, and while there were differences between individual courses there was no evidence of systematic differences across Key Learning Areas.

5.4 ATAR and number of units completed – Table A7

A question that is often posed concerns the relationship between the number of units studied and the ATAR: *"Do students gain a better ATAR if they study more units?"* The data in Table A7 on page 53 show that students with high ATARs tend to have studied more than 10 units, but determining causality is difficult. It is likely that the more academically able students complete more units, so it is not surprising that they gain higher ATARs. On the other hand, if students only study 10 units of ATAR courses and do badly in one course, their ATARs will be lower.

To address this question, HSC students were grouped according to their achievement in the School Certificate Examination. What the data show is that the stronger students did, indeed, tend to study more units and within each group there was a tendency for students who studied more units to achieve higher ATARs.

This does not, however, completely answer the question of causality. The relationship between number of units studied and ATAR within each group might result from personal attributes including interest, motivation, effort and time management. One cannot assume that simply by studying more units one's ATAR will be increased.

5.5 Relationship between the ATAR, percentiles and aggregates – Tables A8a, A8b

A further question that is frequently raised concerns the relationship between the ATAR and the aggregate of scaled marks from which it is derived.

Table A8a on page 54 shows the ATAR corresponding to selected ATAR-eligible percentiles. For example, in 2009 5% of the ATAR cohort received an ATAR of 97.15 or above.

Each ATAR corresponds to a range of aggregates and the figures provided in Table A8b on page 54 show the minimum aggregate corresponding to selected ATARs.

6 Frequently asked questions

There were relatively few enquiries following release of the ATARs in 2009. Most of the enquiries from students received by the ATAR Enquiry Centre at UAC concerned the relationship between their HSC marks and their ATARs, and the reason why one course contributed to their ATAR and not another. These two major enquiries are discussed below, along with the scaling of English. Following that, there is a summary of some of the other frequently asked questions.

6.1 Why is my ATAR low in comparison to my HSC marks?

The ATAR is a rank, not a mark and so there is no reason why the scores should be close. From Table A2 we can see that the median HSC mark for most 2-unit courses is in Band 4, giving a mark around the mid 70s. The middle ATAR is 70.25 which is lower than the median score for most courses. So for students in the middle of the candidature the ATAR will typically be lower than their average HSC mark.

There is, however, no simple rule to convert HSC marks to ATARs. Courses do not necessarily have the same scaled means from year to year and the pattern of HSC marks varies across courses so that the same HSC mark does not necessarily indicate the same position across courses. The following examples illustrate the complexity of the relationship between HSC marks and ATARs.

Example 1

Consider the following two students, Michael and Sue, whose HSC marks are shown in Table 6.1 on a per unit basis. These students are middle students (the 50th percentile) in all of their courses. Their average HSC marks are similar, 38.1 and 38.5 respectively, but their ATARs are quite different, 65.15 and 79.60 respectively.

Table 6.1 Two examples of student achievement to show the effect of different scaled means

Michael

ATAR	Course	HSC mark per unit
65.15	Drama	39.5
	English Advanced	40.0
	Information Processes and Technology	37.0
	Legal Studies	38.5
	General Mathematics	35.5

Sue

ATAR	Course	HSC mark per unit
79.60	Biology	37.0
	Chemistry	38.0
	Economics	39.0
	English Advanced	40.0
	Mathematics	38.5

Both Michael and Sue are at the 50th percentile in all of their courses so the reason for the difference in their ATARs is the difference in the strength of the competition in the courses they have chosen. The average scaled mean for Michael's courses was 24.8 whereas the average scaled mean for Sue's courses was 30.2. Sue has done better overall as she has competed against students of higher academic quality than Michael. Consequently her ATAR is higher.

Example 2

Consider the following two students, Olivia and Jack, whose HSC marks are shown in Table 6.2. Again their average HSC marks are similar, 38.7 and 37.6 respectively, but their ATARs are quite different, 65.00 and 75.00 respectively.

Table 6.2 Two examples of student achievement to show the effect of different scaled means

Olivia

ATAR	Course	HSC mark per unit
65.00	Ancient History	36.5
	Business Studies	41.0
	Community and Family Studies	40.5
	English Standard	37.5
	Visual Arts	38.0

Jack

ATAR	Course	HSC mark per unit
75.00	Biology	39.5
	Chemistry	36.5
	English Advanced	35.0
	Mathematics	38.5
	Physics	38.5

Jack has an ATAR that is close to his average HSC course score (75.2) whereas Olivia's ATAR is much lower than her average HSC course score (77.4). In fact her average HSC score is higher than Jack's. If we look at Table A3 on page 37, the average of the scaled means of the courses taken by Olivia is 21.9 whereas for the courses taken by Jack the average of the scaled means is 30.1. This means that Jack has been competing against students of higher academic quality than Olivia. The difference in the quality of the competition in the courses more than compensates for the slightly lower marks Jack has achieved.

Example 3

Consider the following two students who completed the same courses. The first student, Fred, receives an HSC mark of 35.0 per unit in each course, while the second student, Laura, receives an HSC mark of 40.0 per unit in each course (Table 6.3).

Table 6.3 Two examples of student achievement: Fred and Laura

	Fred		**Laura**	
Course	HSC mark per unit	Percentile	HSC mark per unit	Percentile
Biology	35.0	39	40.0	71
Business Studies	35.0	35	40.0	65
English Advanced	35.0	13	40.0	53
Mathematics	35.0	31	40.0	60
Modern History	35.0	24	40.0	63
Visual Arts	35.0	12	40.0	51
ATAR	57.80		81.20	

Their HSC marks per unit in each course differ by only 5, yet their ATARs differ by 23.4. Laura's ATAR is similar to her HSC course marks (80 per course) while Fred's ATAR is much lower than his HSC course marks (70 per course).

The reason for the large difference in the ATARs can be found in the differences in the percentiles shown in Table 6.3. The percentiles are much higher for Laura than for Fred. Given these large differences, it is not surprising that their ATARs are very different.

The ATAR is all about position, whereas HSC marks indicate levels of achievement in individual courses.

6.2 Why is one course counted towards my ATAR when another course where I received a higher HSC mark does not count?

As in previous years, this question arose after the results were released because each student's ATAR Advice Notice shows which units contribute to their ATAR. The question is not always easy to answer, especially as students are only aware of their HSC marks, which provide little information as to their rankings in their courses.

The question can often be answered by reference to data on the distributions of HSC and scaled marks in Table A3 on page 37. Some examples are presented to illustrate the principles involved.

The examples illustrate the general principle that *a student's position in their course* ***and*** *the scaled means and standard deviations of their courses are* ***all*** *important in determining which of their courses contribute towards their ATAR.*

Also remember that a *given HSC mark usually corresponds to a range of raw and scaled marks*.

Example 1 – scaled means

The first example (Table 6.4) shows a set of HSC and scaled marks corresponding to results at the 90th percentile of the various course distributions.

Table 6.4 HSC and scaled marks – example 1

Course	Number	Scaled mean	Scaled SD	P_{90}	
				HSC mark per unit	Scaled mark
Ancient History	11 954	24.8	10.9	45.0	38.8
Biology	15 308	26.8	9.6	44.0	38.9
Business Studies	15 672	23.8	10.3	44.5	37.6
Industrial Technology	3 701	16.8	9.6	45.0	31.0
Physics	9 023	30.4	9.7	45.0	42.1

These HSC marks are similar and each is at the 90th percentile of a large course with comparable standard deviations. Since the position within the course candidature is the same for each course the scaled mark will depend on the academic quality of the candidature of the course concerned. The highest scaled mark is for Physics, which has the highest scaled mean.

Notice a student in Biology with an HSC mark of 44 can receive a higher scaled mark than a student in Ancient History with an HSC mark of 45 due to the differences in the strength of the competition reflected in the scaled mean. The HSC mark on its own does not give a clear indication of the contribution a course makes towards a student's aggregate.

Example 2 - position

Consider students with HSC marks of 47.0 per unit in Geography and English Extension 2. The student in Geography is at the 99th percentile and gains a scaled mark of 45.3 whereas the student in English Extension 2 is at the 90th percentile and gets a scaled mark of 44.8. Therefore, even though the scaled mean for English Extension 2, 36.4, is much higher than the scaled mean for Geography, 25.5, the difference in position compensates for this and the Geography student gets the higher scaled mark.

Table 6.5 HSC and scaled marks – example 2

Course	Scaled mean	Scaled SD	Percentile	HSC mark per unit	Scaled mark
English Extension 2	36.4	6.8	P_{90}	47.0	44.8
Geography	25.5	10.4	P_{99}	47.0	45.3

Example 3 – standard deviations

In some situations, particularly in courses with smaller candidatures, the difference in the distribution spread is also a factor in deciding which course contributes towards the ATAR.

Table 6.6 HSC and scaled marks – example 3

Course	Scaled mean	Scaled SD	P_{90}	
			HSC mark per unit	Scaled mark
Chinese Extension	35.3	6.0	47.0	42.4
German Beginners	28.0	11.2	47.0	43.2

Consider students at the 90th percentile of Chinese Extension with an HSC mark of 47.0 and scaled mark of 42.4 and at the 90th percentile of German Beginners with an HSC mark of 47.0 per unit and scaled mark of 43.2 per unit. Chinese Extension has a scaled mean of 35.3 whereas German Beginners has a scaled mean of 28.0.

You would expect the difference in the scaled means to result in a difference in the 90th percentile scaled marks. The reason the scaled marks are similar is the spread in the distribution as measured by the standard deviation (SD). Chinese Extension has an SD of 6.0 but German Beginners has an SD of 11.2. The German Beginners has a candidature with a much more varied academic ability than Chinese Extension.

Example 4 – raw vs HSC marks

One example to reinforce the point that there is not necessarily a unique scaled mark for each HSC mark arose in 2009 with regards to Economics and Latin Extension. After consulting the *ATAR 2009 Preliminary report* on the UAC website a student with an Economics mark of 45.5 and a Latin Extension mark of 47.0 wanted to know why his Economics mark had been included in his ATAR calculation instead of his Latin Extension mark.

Table 6.7 HSC and scaled marks – example 4

Course	Scaled mean	Scaled SD	Percentile	HSC mark per unit	Scaled mark
Economics	30.6	10.3	P_{90}	45.5	42.4
Latin Extension	41.1	7.1	P_{50}	47.0	43.3

From Table A3 on page 37 we can see that a student at the 90th percentile of Economics had an HSC mark of 45.5 and a scaled mark of 42.4 and a student at the 50th percentile of Latin Extension had an HSC mark of 47.0 and scaled mark of 43.3. Looking at the data in Table A3, the above question is therefore quite reasonable.

However, as noted in section 4.6, Table A3 is not a simple conversion table. The purpose of Table A3 is to identify the quantiles of the HSC and scaled mark distributions. Since it is the raw marks that are used in the scaling process, and several raw marks can be mapped onto one HSC mark, there can be a range of scaled marks associated with a given HSC result.

In 2009 there were nine distinct scaled marks corresponding to the Latin Extension HSC mark of 47.0. The person making the enquiry was below the 50th percentile for Latin Extension when the raw marks were considered and his scaled mark for Latin Extension was below 42.4. Therefore his Economics mark was included in his aggregate.

6.3 If English Standard and English Advanced are scaled as a single group, why does the same HSC mark give different scaled marks in English Standard and English Advanced?

HSC marks and scaled marks are different marks. HSC marks are the marks released by the Board to students and are the result of the standards-setting exercise. Scaled marks are, however, based on raw HSC marks.

- In 2-unit English all students complete a common paper (Paper 1) that counts for 40% of the total mark. Advanced and Standard students then complete separate papers that count for 60% of the total mark.
- The Board then uses Paper 1 to place the marks of the separate Standard and Advanced papers on the same scale so that a total (raw) examination mark can be calculated for 2-unit English. The marks for Standard and Advanced students are deemed to be on the same scale.
- The Board moderates school assessments using these raw examination marks.
- The raw HSC mark, which is used for scaling, is then calculated.
- The raw HSC marks for the Standard and Advanced English students are combined, and scaled as a single course. A given raw HSC mark yields the same scaled mark for Standard and Advanced students.
- The Board aligns the raw examination marks against standards separately for Standard and Advanced students. As a result, Advanced students on a given raw mark receive a higher aligned mark than Standard students on the same raw mark. Consequently an aligned HSC mark corresponds to different scaled marks for Standard and Advanced students. This gives the appearance that Advanced students have been disadvantaged, but this is not true.

If Table A3 on page 37 showed the raw HSC marks rather than the reported HSC marks, it would be clear that Advanced students are not disadvantaged in the scaling process.

6.4 Other frequently asked questions

Does the school I attend matter?

No. The school attended does not feature in the ATAR calculation. The ATAR calculation is based only on marks provided by the Board; no other information is used.

Does my postcode matter?

No.

Are certain courses always "scaled up" or "scaled down"?

No. Scaling is carried out afresh each year – if the quality of the candidature changes, the scaled mean will also change.

Is it true that if I study this course I can't get a high ATAR?

No. Table A1 on page 31 shows there are students in every course who achieve high ATARs.

What impact did the variation in patterns of HSC marks have on the ATAR calculations?

None. It is the raw HSC marks rather than the aligned HSC marks that are scaled. The fact that the percentage of students who are placed in Performance Band 6 differs across courses has no effect on the calculation of the ATAR.

Why can't I use my HSC marks to check the calculation of my ATAR?

There are two reasons. The first is the ATAR is a rank that indicates your position in relation to other students, it is not an average mark. Secondly raw marks are used in the calculation of the ATAR not the aligned HSC marks.

Can I find out what my scaled marks are?

No. Scaled marks are not reported to students. They are determined during an interim phase in the ATAR calculation.

I have similar HSC marks to my friend, but we don't have similar ATARs. Why not?

Your ATARs would be similar if your courses were the same.

Which course should I study?

Do not choose courses on the basis of what you believe are the likely effects of scaling. Choice of which courses to study should be determined only by your interests, your demonstrated abilities and the value of courses for your future career plans. The scaling process is designed to allow students to choose according to these principles and not, as far as university selection is concerned, be disadvantaged by their choice. It treats all students on their merits.

Do I get a better ATAR if I study more units?

This is a common question. While the data (see Table A7) show that students who study more units tend to gain higher ATARs, determining causality is difficult. The relationship between number of units studied and ATAR might result from personal attributes including interest, motivation, effort and time management. You cannot assume that simply by studying more units your ATAR will be increased.

What happens if I repeat a course?

If a course is repeated only the last satisfactory attempt is used towards the calculation of the ATAR. Your aggregate will be re-calculated using your new mark and your previous marks. Your aggregate may increase, remain the same or decrease; it depends on your new mark. Since you are being compared with a different cohort your ATAR may increase, remain the same or decrease.

What happens if I accumulate the HSC?

Students who accumulate courses towards their HSC have their scaled marks calculated the year they complete the courses.

What happens if I already have an ATAR and add a new ATAR course the following year?

Your aggregate will be re-calculated using your new course and your previous courses. It may increase or stay the same but it will not go down. Since you are being compared with a different cohort your ATAR may increase, remain the same or decrease.

If I'm eligible to get bonus points, does my ATAR change?

No. Bonus points do not change your ATAR. They change your selection rank for a particular preference or course.

If bonus points don't increase my ATAR, then how do they work?

Universities allocate bonus points for different reasons. Examples include students with strong performance in specific HSC courses, students who live in or attend school in an area defined by the university and students who have applied for consideration through Educational Access Schemes.

As the bonus points schemes for each university, and often each course at the same university, are different then your selection rank can be different for each course you list in your course preferences. For most Year 12 applicants, their selection rank for each preference is their ATAR. However, if a university allocates bonus points to you for a particular course then your selection rank for that preference is your ATAR + bonus points.

Do ATAR cut-offs include bonus points?

Yes. The ATAR cut-off is the lowest ATAR (including any bonus points) required for entry into a particular course.

7 Appendix

The following courses are not included in any of the Tables A1-A6 in the Appendix as they had less than 10 students in 2009:

- Chinese Beginners
- Classical Greek Extension
- Dutch
- Hungarian
- Malay Background Speakers
- Maltese
- Swedish
- Ukrainian.

Some tables have additional exlusions as described below.

Table A1 Gender, ATAR eligibility and maximum ATAR by course
Excludes courses with less than 10 students and small courses with less than 50% ATAR-eligible students.

Table A2 Distributions of 2009 HSC marks by course
Excludes courses with less than 10 students.

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course
Excludes courses with less than 10 students and no percentile data are given for courses with less than 40 students.

Table A4 Distributions of HSC marks by course: 2008–2009
Excludes courses with less than 40 students in either year.

Table A5 Distributions of scaled marks by course: 2008–2009
Excludes courses with less than 40 students in either year.

Table A6 Courses that contribute to the ATAR
Excludes courses with less than 10 students.

Table A7 Number of units completed, by ATAR

Table A8a Relationship between the ATAR and percentiles

Table A8b Relationship between the ATAR and aggregates

Table A1 Gender, ATAR eligibility and maximum ATAR by course

*Notes: (i) The **Number** column includes students who have completed the course in 2009 and in previous years (for those who accumulated courses).*

*(ii) The **% Female** column shows the gender split.*

*(iii) The **% ATAR eligible** column shows the percentage of students who did the course in 2009 or a previous year who were eligible for an ATAR in 2009.*

*(iv) The **Maximum ATAR** column is the maximum ATAR achieved by a student doing the course in 2009 or a prevous year.*

(v) The table excludes courses with less than 10 students and small courses with less than 50% ATAR-eligible students.

Course	Number	% Female	% ATAR eligible	Maximum ATAR
Aboriginal Studies	332	64.2	60.5	96.40
Agriculture	1 328	49.7	75.0	99.95
Ancient History	12 098	56.7	90.7	99.95
Biology	15 531	62.0	94.9	99.95
Business Studies	15 892	49.1	90.8	99.95
Chemistry	10 185	45.8	97.6	99.95
Community & Family Studies	5 242	94.3	76.8	98.40
Dance	811	93.6	81.1	98.60
Design & Technology	3 680	41.8	84.6	99.20
Drama	4 855	69.4	87.6	99.90
Earth & Environmental Science	1 434	47.6	92.3	99.85
Economics	6 174	39.1	98.2	99.95
Engineering Studies	1 633	3.2	96.1	99.95
English Standard	32 752	47.4	69.7	99.80
English Advanced	27 467	58.4	97.4	99.95
English Extension 1	5 750	63.6	99.1	99.95
English Extension 2	2 176	66.9	99.1	99.95
English as a Second Language	3 260	51.7	86.7	99.95
Food Technology	3 460	74.2	79.6	99.30
Geography	4 629	46.0	90.7	99.95
Industrial Technology	3 712	9.6	53.4	99.30
Information Processes & Technology	5 346	28.2	84.5	99.90
Legal Studies	8 288	60.5	93.3	99.95
General Mathematics	30 186	50.1	82.1	99.60
Mathematics	17 450	46.3	92.7	99.95
Mathematics Extension 1	8 809	42.4	96.7	99.95
Mathematics Extension 2	3 223	40.0	98.0	99.95
Modern History	9 800	54.6	93.3	99.95
History Extension	2 216	59.8	99.3	99.95
Music 1	4 926	42.7	83.5	99.85
Music 2	770	53.6	96.1	99.95
Music Extension	453	53.9	98.0	99.95
PDH&PE	12 868	54.6	87.9	99.80
Physics	9 108	25.0	97.9	99.95
Senior Science	4 850	45.8	81.5	99.30
Society & Culture	3 966	81.9	87.5	99.90
Software Design & Development	1 785	8.7	92.2	99.95
Studies of Religion I	9 929	52.5	94.0	99.95
Studies of Religion II	3 983	65.8	96.6	99.95

Table A1 Gender, ATAR eligibility and maximum ATAR by course (continued)

Course	Number	% Female	% ATAR eligible	Maximum ATAR
Textiles & Design	2 178	98.2	83.2	99.45
Visual Arts	9 689	70.8	84.0	99.95
Arabic Continuers	219	62.1	85.8	94.70
Arabic Extension	63	50.8	85.7	90.75
Armenian	29	62.1	96.6	97.35
Chinese Continuers	132	58.3	99.2	99.75
Chinese Extension	59	55.9	100.0	99.75
Chinese Background Speakers	1 401	52.3	89.2	99.75
Classical Greek Continuers	11	18.2	100.0	99.95
Classical Hebrew Continuers	37	56.8	97.3	99.55
Classical Hebrew Extension	25	48.0	100.0	99.55
Croatian	17	47.1	70.6	91.65
Filipino	37	51.4	75.7	89.15
French Beginners	532	82.9	92.1	99.95
French Continuers	922	69.1	93.2	99.95
French Extension	220	64.5	95.5	99.95
German Beginners	91	67.0	90.1	99.60
German Continuers	353	60.9	95.5	99.95
German Extension	112	63.4	95.5	99.95
Hindi	52	51.9	67.3	99.15
Indonesian Beginners	31	74.2	90.3	98.65
Indonesian Continuers	77	66.2	97.4	99.75
Indonesian Extension	25	76.0	100.0	99.75
Indonesian Background Speakers	98	60.2	82.7	99.35
Italian Beginners	415	72.0	88.2	99.85
Italian Continuers	346	76.3	88.7	99.90
Italian Extension	68	69.1	100.0	99.90
Japanese Beginners	766	65.0	93.7	99.45
Japanese Continuers	819	64.3	96.1	99.95
Japanese Extension	288	60.1	99.3	99.90
Japanese Background Speakers	29	72.4	75.9	95.65
Khmer	16	81.3	87.5	88.00
Korean Background Speakers	93	68.8	92.5	99.55
Latin Continuers	194	41.2	99.5	99.95
Latin Extension	102	39.2	99.0	99.95
Macedonian	27	74.1	96.3	94.00
Modern Greek Beginners	44	70.5	79.5	97.90
Modern Greek Continuers	125	73.6	84.8	98.50
Modern Greek Extension	48	70.8	89.6	97.95
Modern Hebrew	51	66.7	80.4	99.65
Persian	48	62.5	56.3	91.90
Polish	40	50.0	90.0	98.75
Portuguese	20	65.0	80.0	93.65
Russian	20	35.0	90.0	99.70
Serbian	33	57.6	93.9	93.90
Spanish Beginners	124	76.6	82.3	99.65
Spanish Continuers	195	65.1	88.7	98.50
Spanish Extension	74	68.9	90.5	98.50

Table A1 Gender, ATAR eligibility and maximum ATAR by course (continued)

Course	Number	% Female	% ATAR eligible	Maximum ATAR
Turkish	61	65.6	80.3	92.85
Vietnamese	166	55.4	88.0	99.20
Accounting	500	54.0	83.6	99.80
Automotive Exam	293	4.8	43.3	87.45
Business Services Exam	1 415	79.8	76.5	97.10
Construction Exam	1 432	1.9	47.1	96.10
Electrotechnology Exam	135	1.5	52.6	88.60
Entertainment Exam	854	53.7	80.3	96.50
Hospitality Exam	5 400	70.5	82.1	98.45
Information Technology Exam	1 703	22.2	78.7	99.50
Metal & Engineering Exam	650	1.7	43.8	95.30
Primary Industries Exam	525	42.1	53.0	97.90
Retail Services Exam	1 120	73.6	67.4	95.35
Tourism Exam	313	91.1	77.6	94.80
Distinction Courses	75	38.7	82.7	99.95

Table A2 Distributions of 2009 HSC marks by course

*Notes: (i) The **Median HSC mark** column shows the median HSC mark.*
*(ii) The **Median Band** column indicates the Performance Band in which the median HSC mark lies.*
*(iii) The **Percentage of students in Performance Band** columns show the percentage of a course candidature in each of the Performance Bands 6 to 2. Extension courses show only Bands 4 to 2 as they have four Bands only, E1 to E4.*
(iv) The table excludes courses with less than 10 students.

Course	Number	Median HSC mark	Median Band	Percentage of students in Performance Band				
				6	5	4	3	2
Aboriginal Studies	325	76	4	11	25	34	18	9
Agriculture	1 249	71	4	8	19	28	28	11
Ancient History	11 954	74	4	12	25	25	23	9
Biology	15 308	74	4	7	25	32	26	8
Business Studies	15 672	76	4	8	30	30	21	8
Chemistry	10 041	76	4	11	28	33	19	6
Community & Family Studies	5 208	73	4	6	23	35	25	8
Dance	763	75	4	10	26	37	24	3
Design & Technology	3 632	75	4	8	26	38	23	5
Drama	4 772	79	4	12	35	35	15	3
Earth & Environmental Science	1 393	77	4	8	33	38	17	4
Economics	6 136	79	4	14	33	26	15	7
Engineering Studies	1 618	77	4	9	30	35	19	5
English Standard	32 454	67	3	<1	5	31	41	15
English Advanced	27 248	80	5	11	41	37	10	1
English Extension 1	5 718	41	E3			22	62	15
English Extension 2	2 165	41	E3			28	52	18
English as a Second Language	3 248	71	4	3	19	34	29	11
Food Technology	3 421	75	4	8	22	39	22	6
Geography	4 556	76	4	11	29	28	22	8
Industrial Technology	3 701	74	4	11	22	29	24	10
Information Processes & Technology	5 078	74	4	8	24	33	23	7
Legal Studies	8 203	77	4	12	31	25	19	8
General Mathematics	29 909	71	4	6	19	30	27	12
Mathematics	17 197	77	4	16	27	28	18	5
Mathematics Extension 1	8 630	42	E3			35	47	15
Mathematics Extension 2	3 170	87	E3			40	50	9
Modern History	9 662	78	4	9	32	37	16	5
History Extension	2 210	40	E3			23	50	21
Music 1	4 882	81	5	15	43	29	11	2
Music 2	733	85	5	28	54	16	2	<1
Music Extension	440	45	E4			52	43	5
PDH&PE	12 762	73	4	9	23	29	27	9
Physics	9 023	77	4	12	30	27	20	9
Senior Science	4 802	75	4	8	29	31	25	6
Society & Culture	3 925	77	4	7	35	30	19	8
Software Design & Development	1 722	73	4	7	22	34	27	9
Studies of Religion I	9 799	39	4	11	37	34	14	3
Studies of Religion II	3 950	80	5	14	39	30	12	4
Textiles & Design	2 159	78	4	14	32	31	18	5
Visual Arts	9 567	80	5	12	42	36	8	1

Table A2 Distributions of 2009 HSC marks by course (continued)

Course	Number	Median HSC mark	Median Band	Percentage of students in Performance Band				
				6	5	4	3	2
Arabic Continuers	211	76	4	3	33	32	23	5
Arabic Extension	59	37	E3			8	58	29
Armenian	28	83	5	7	64	21	7	
Chinese Continuers	131	88	5	41	42	11	4	2
Chinese Extension	58	45	E4			67	31	2
Chinese Background Speakers	1 393	81	5	9	49	35	7	1
Classical Greek Continuers	11	95	6	55	27	18		
Classical Hebrew Continuers	37	82	5	22	49	16	14	
Classical Hebrew Extension	25	44	E3			48	52	
Croatian	17	83	5	6	59	29	6	
Filipino	37	86	5	30	54	14	3	
French Beginners	528	76	4	17	24	24	24	9
French Continuers	887	81	5	26	30	29	12	2
French Extension	216	45	E4			51	42	7
German Beginners	85	80	5	19	33	20	20	7
German Continuers	330	80	5	23	27	24	18	5
German Extension	105	41	E3			27	47	24
Hindi	21	85	5	48	19	33		
Indonesian Beginners	30	82	5	23	40	10	10	17
Indonesian Continuers	77	83	5	31	35	14	8	12
Indonesian Extension	25	41	E3			36	40	20
Indonesian Background Speakers	98	75	4	4	28	49	19	
Italian Beginners	413	77	4	19	22	30	18	7
Italian Continuers	334	81	5	20	38	25	13	2
Italian Extension	68	40	E3			10	84	6
Japanese Beginners	760	75	4	15	23	24	21	12
Japanese Continuers	800	81	5	23	33	22	16	6
Japanese Extension	283	40	E3			26	54	19
Japanese Background Speakers	26	84	5	27	46	23	4	
Khmer	16	83	5	13	63	19	6	
Korean Background Speakers	93	85	5	24	51	22	3	1
Latin Continuers	184	92	6	65	24	9	2	
Latin Extension	102	47	E4			75	23	2
Macedonian	27	83	5	30	26	22	22	
Modern Greek Beginners	44	85	5	30	32	20	11	2
Modern Greek Continuers	115	82	5	15	45	31	3	3
Modern Greek Extension	45	42	E3			44	49	7
Modern Hebrew	39	91	6	62	36	3		
Persian	31	79	4	29	16	29	26	
Polish	35	93	6	66	23	9	3	
Portuguese	19	77	4	5	32	32	21	11
Russian	20	86	5	40	40	10	10	
Serbian	30	84	5	23	43	23	10	
Spanish Beginners	124	74	4	17	20	26	15	10
Spanish Continuers	190	82	5	10	55	27	8	
Spanish Extension	71	39	E3			11	82	7

Table A2 Distributions of 2009 HSC marks by course (continued)

Course	Number	Median HSC mark	Median Band	Percentage of students in Performance Band				
				6	5	4	3	2
Tamil	28	89	5	39	54	7		
Turkish	56	81	5	7	52	39	2	
Vietnamese	162	77	4	2	35	46	10	5
Accounting	497	78	4	15	30	23	21	8
Automotive Exam	293	74	4	1	22	40	29	6
Business Services Exam	1 397	73	4	2	17	45	28	7
Construction Exam	1 395	70	4	1	12	42	33	11
Electrotechnology Exam	135	74	4	3	24	45	23	4
Entertainment Exam	846	72	4	5	18	37	26	10
Hospitality Exam	5 362	75	4	5	26	42	22	5
Information Technology Exam	1 655	71	4	1	17	36	31	10
Metal & Engineering Exam	648	72	4	2	18	40	25	10
Primary Industries Exam	506	75	4	4	22	43	28	4
Retail Services Exam	1 112	74	4	1	22	50	23	4
Tourism Exam	312	75	4	3	26	48	21	2
Distinction Courses	66	85	5	32	59	8		2

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course

*Notes: (i) The **P99, P90, P75, P50, P25 columns** refer to the 99th, 90th, 75th, 50th and 25th percentiles respectively.*
(ii) The table excludes courses with less than 10 students and no percentile data are given for courses with less than 40 students.
(iii) This table should not be used as a simple HSC to scaled mark conversion table. For each HSC mark there can be a range of raw marks and therefore a range of scaled marks. See section 4.6 in this report for more information.

Course	Number	Type of mark	Mean	SD	Max. mark	P99	P90	P75	P50	P25
Aboriginal Studies	325	HSC	37.4	6.2	49.0	48.0	45.5	41.5	38.0	34.0
		scaled	15.4	11.2	42.4	40.2	33.7	22.9	12.9	6.2
Agriculture	1 249	HSC	35.5	6.8	49.0	48.0	44.5	40.0	35.5	31.5
		scaled	20.7	10.7	46.5	44.1	36.1	28.2	19.8	12.0
Ancient History	11 954	HSC	36.7	7.1	50.0	48.0	45.0	42.0	37.0	32.5
		scaled	24.8	10.9	49.4	44.8	38.8	33.4	25.3	16.5
Biology	15 308	HSC	36.8	5.5	49.0	47.0	44.0	41.0	37.0	33.0
		scaled	26.8	9.6	49.9	44.7	38.9	34.3	27.7	19.8
Business Studies	15 672	HSC	37.2	5.8	48.5	47.0	44.5	41.5	38.0	33.5
		scaled	23.8	10.3	48.5	44.3	37.6	31.7	23.8	15.7
Chemistry	10 041	HSC	37.5	6.2	49.0	47.5	45.0	42.0	38.0	34.0
		scaled	31.5	9.2	50.0	46.6	42.4	38.5	33.0	25.8
Community & Family Studies	5 208	HSC	36.4	5.7	49.0	47.0	43.5	40.5	36.5	33.0
		scaled	20.0	10.1	44.6	41.2	34.0	27.6	19.6	11.8
Dance	763	HSC	37.9	4.8	49.5	48.5	44.5	41.0	37.5	34.5
		scaled	22.9	9.4	45.6	44.1	36.8	29.6	21.9	15.4
Design & Technology	3 632	HSC	37.7	4.9	48.5	47.5	44.5	41.0	37.5	34.5
		scaled	21.6	9.9	45.6	43.5	35.8	28.7	20.7	13.9
Drama	4 772	HSC	39.2	4.7	50.0	48.0	45.0	42.5	39.5	36.0
		scaled	24.7	10.2	49.8	45.7	38.4	32.3	24.9	17.0
Earth & Environmental Science	1 393	HSC	38.3	4.8	48.5	47.0	44.5	42.0	38.5	35.5
		scaled	24.9	9.7	48.1	44.4	37.6	32.2	25.3	17.9
Economics	6 136	HSC	37.8	7.2	49.0	47.5	45.5	43.0	39.0	34.0
		scaled	30.6	10.3	50.0	46.9	42.4	38.4	32.5	24.4
Engineering Studies	1 618	HSC	37.8	5.6	48.5	47.0	44.5	41.5	38.5	34.5
		scaled	25.9	9.4	48.2	44.5	38.8	32.7	26.1	19.2
English Standard	32 454	HSC	32.6	5.4	47.0	43.0	38.5	36.0	33.5	30.0
		scaled	18.0	8.1	46.4	37.9	28.7	23.4	17.6	12.0
English Advanced	27 248	HSC	39.8	4.0	49.5	47.5	45.0	42.5	40.0	37.0
		scaled	31.5	8.3	50.0	46.9	42.3	37.8	32.1	25.7
English Extension 1	5 718	HSC	39.9	5.3	50.0	48.0	46.0	44.0	41.0	36.0
		scaled	36.3	6.6	50.0	47.0	43.7	41.1	37.4	32.9
English Extension 2	2 165	HSC	39.8	6.6	50.0	50.0	47.0	45.0	41.0	36.0
		scaled	36.4	6.8	50.0	48.6	44.8	41.3	37.0	32.4
English as a Second Language	3 248	HSC	35.3	5.6	48.0	46.0	42.5	39.5	35.5	31.5
		scaled	20.9	11.5	48.8	44.5	37.0	29.8	20.7	10.9
Food Technology	3 421	HSC	37.1	5.6	49.5	48.0	44.0	41.0	37.5	34.0
		scaled	20.8	10.5	46.5	43.5	35.6	28.7	20.0	12.5
Geography	4 556	HSC	37.5	6.0	48.5	47.0	45.0	42.0	38.0	33.5
		scaled	25.5	10.4	50.0	45.3	39.3	33.5	26.0	17.9
Industrial Technology	3 701	HSC	36.4	6.7	50.0	48.0	45.0	41.5	37.0	32.5
		scaled	16.8	9.6	40.4	38.0	31.0	23.8	15.6	9.0

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course (continued)

Course	Number	Type of mark	Mean	SD	Max. Mark	P99	P90	P75	P50	P25
Information Processes & Technology	5 078	HSC	36.6	6.3	49.0	47.0	44.5	41.0	37.0	33.0
		scaled	21.3	10.5	47.0	42.4	35.5	29.3	21.5	13.2
Legal Studies	8 203	HSC	37.3	6.9	49.5	47.5	45.0	42.5	38.5	33.0
		scaled	25.4	10.7	50.0	45.4	39.3	33.8	26.2	17.4
General Mathematics	29 909	HSC	35.0	6.7	49.5	47.0	43.5	39.5	35.5	31.0
		scaled	21.2	9.9	45.3	41.2	34.8	29.0	20.9	13.2
Mathematics	17 197	HSC	37.7	7.3	50.0	48.5	46.0	43.0	38.5	34.0
		scaled	30.4	9.5	50.0	47.0	42.2	37.7	31.4	24.2
Mathematics Extension 1	8 630	HSC	40.3	7.1	50.0	49.5	47.5	46.0	42.0	36.5
		scaled	40.1	7.6	50.0	49.4	47.7	45.6	42.1	36.9
Mathematics Extension 2	3 170	HSC	41.7	5.8	50.0	48.5	47.0	46.0	43.5	39.0
		scaled	44.7	4.4	50.0	49.4	48.5	47.6	46.0	43.3
Modern History	9 662	HSC	38.3	5.2	49.0	47.5	44.5	42.0	39.0	35.5
		scaled	27.4	10.4	50.0	46.7	40.3	35.3	28.6	20.5
History Extension	2 210	HSC	38.5	7.2	50.0	49.0	47.0	44.0	40.0	34.0
		scaled	33.8	6.4	48.3	45.9	41.6	38.5	34.2	29.6
Music 1	4 882	HSC	40.1	4.5	50.0	48.5	45.5	43.5	40.5	37.5
		scaled	22.3	10.1	47.0	45.0	36.7	29.3	21.7	14.8
Music 2	733	HSC	42.5	3.5	49.5	49.0	47.0	45.0	42.5	40.5
		scaled	32.9	8.1	50.0	48.8	43.5	39.0	32.7	27.9
Music Extension	440	HSC	43.6	4.9	50.0	50.0	49.0	47.0	45.0	40.0
		scaled	34.6	8.2	50.0	50.0	46.1	40.8	34.6	28.9
PDH&PE	12 762	HSC	36.4	6.2	50.0	47.5	44.5	41.0	36.5	32.5
		scaled	23.3	10.2	47.8	43.6	37.4	31.2	23.3	15.3
Physics	9 023	HSC	37.5	6.4	49.0	47.5	45.0	42.5	38.5	33.5
		scaled	30.4	9.7	50.0	46.3	42.1	38.0	31.8	23.8
Senior Science	4 802	HSC	37.4	5.5	49.5	47.0	44.0	41.5	37.5	34.0
		scaled	19.7	9.7	43.7	40.4	32.9	27.0	19.4	12.3
Society & Culture	3 925	HSC	37.7	5.6	50.0	48.0	44.0	42.0	38.5	34.0
		scaled	23.8	10.5	48.7	45.7	37.6	31.5	23.8	15.8
Software Design & Development	1 722	HSC	36.5	5.4	49.0	47.5	43.5	40.5	36.5	32.5
		scaled	24.7	9.8	47.3	43.4	37.3	32.2	25.3	17.2
Studies of Religion I	9 799	HSC	38.9	4.8	49.0	48.0	45.0	42.0	39.0	36.0
		scaled	27.3	8.6	47.9	44.4	38.6	33.8	27.7	21.3
Studies of Religion II	3 950	HSC	39.4	5.1	49.0	47.5	45.5	43.5	40.0	36.5
		scaled	27.7	9.7	50.0	46.5	40.0	35.2	28.4	21.0
Textiles & Design	2 159	HSC	38.7	5.4	49.0	48.0	45.5	43.0	39.0	35.0
		scaled	22.6	10.1	46.8	44.1	36.9	30.2	22.0	14.6
Visual Arts	9 567	HSC	40.0	4.1	50.0	47.5	45.0	43.0	40.0	37.5
		scaled	23.1	10.5	49.0	45.6	37.9	31.0	22.3	14.9
Arabic Continuers	211	HSC	36.5	6.4	45.5	45.0	43.0	41.0	38.0	33.5
		scaled	17.6	10.5	42.7	40.8	32.6	25.8	16.9	8.5
Arabic Extension	59	HSC	36.1	6.9	47.0	47.0	44.0	41.0	37.0	31.0
		scaled	23.8	8.2	41.6	41.6	34.4	29.4	24.2	16.7
Armenian	28	HSC	40.8	3.6	45.5					
		scaled	22.6	10.6	45.0					
Chinese Continuers	131	HSC	42.8	4.1	48.0	48.0	46.5	45.5	44.0	41.0
		scaled	32.1	10.1	50.0	48.6	43.8	39.4	33.7	25.3

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course (continued)

Course	Number	Type of mark	Mean	SD	Max. Mark	P99	P90	P75	P50	P25
Chinese Extension	58	HSC	44.6	2.7	48.0	48.0	47.0	46.0	45.0	43.0
		scaled	35.3	6.0	48.1	48.1	42.4	38.3	35.6	32.3
Chinese Background Speakers	1 393	HSC	40.2	3.5	47.5	46.5	44.5	43.0	40.5	38.0
		scaled	19.9	10.9	46.9	44.4	36.0	27.6	18.6	11.0
Classical Greek Continuers	11	HSC	45.1	4.5	49.5					
		scaled	39.0	9.8	50.0					
Classical Hebrew Continuers	37	HSC	40.7	4.3	48.5					
		scaled	36.5	7.2	50.0					
Classical Hebrew Extension	25	HSC	43.5	3.4	48.0					
		scaled	39.4	4.9	49.8					
Croatian	17	HSC	40.8	3.7	47.0					
		scaled	22.6	11.9	50.0					
Filipino	37	HSC	42.7	3.1	48.0					
		scaled	20.0	10.5	43.4					
French Beginners	528	HSC	37.3	7.0	50.0	49.5	46.0	43.0	38.0	32.5
		scaled	25.7	10.2	49.7	47.9	39.1	33.2	25.8	18.1
French Continuers	887	HSC	40.3	5.7	50.0	49.0	47.0	45.0	40.5	36.5
		scaled	33.9	8.5	50.0	48.3	44.0	40.5	34.8	28.2
French Extension	216	HSC	43.3	4.3	50.0	48.0	48.0	46.0	45.0	41.0
		scaled	40.9	5.0	50.0	48.5	46.6	44.5	41.4	38.0
German Beginners	85	HSC	38.8	6.3	49.5	49.5	47.0	44.0	40.0	33.5
		scaled	28.0	11.2	50.0	50.0	43.2	37.0	29.2	18.3
German Continuers	330	HSC	38.9	6.6	48.5	48.5	47.0	44.5	39.5	34.5
		scaled	33.8	9.1	50.0	49.0	45.2	41.4	34.7	27.5
German Extension	105	HSC	39.2	6.8	50.0	49.0	47.0	45.0	41.0	34.0
		scaled	38.6	5.4	50.0	49.0	44.9	42.8	39.5	34.7
Hindi	21	HSC	42.6	4.3	49.5					
		scaled	25.9	12.2	50.0					
Indonesian Beginners	30	HSC	39.4	6.8	48.0					
		scaled	25.9	13.7	50.0					
Indonesian Continuers	77	HSC	40.3	6.4	49.0	49.0	47.0	45.5	41.5	37.5
		scaled	31.4	11.3	50.0	50.0	44.2	40.8	32.6	25.8
Indonesian Extension	25	HSC	39.7	7.1	48.0					
		scaled	34.6	7.6	49.6					
Indonesian Background Speakers	98	HSC	37.7	3.9	48.5	48.5	43.0	40.5	37.0	35.0
		scaled	30.2	8.0	49.9	49.9	40.6	35.9	29.5	24.9
Italian Beginners	413	HSC	37.9	7.2	49.5	49.0	47.0	43.0	38.5	33.5
		scaled	25.9	10.6	50.0	47.6	41.2	32.9	25.3	17.7
Italian Continuers	334	HSC	39.8	5.7	49.0	49.0	46.5	44.0	40.5	36.5
		scaled	28.7	9.4	50.0	49.4	40.7	35.6	28.8	21.7
Italian Extension	68	HSC	40.3	3.9	50.0	50.0	45.0	43.0	40.0	38.0
		scaled	38.0	4.8	49.3	49.3	43.5	41.8	38.3	34.9
Japanese Beginners	760	HSC	36.7	7.4	49.5	49.0	46.0	42.5	37.5	31.5
		scaled	23.9	10.9	47.1	45.8	38.5	32.4	24.2	15.0
Japanese Continuers	800	HSC	39.6	6.0	49.0	49.0	46.5	44.5	40.5	35.5
		scaled	31.6	9.8	50.0	48.5	43.2	39.2	32.9	24.7
Japanese Extension	283	HSC	39.6	5.8	49.0	49.0	46.0	45.0	40.0	36.0
		scaled	37.5	5.2	49.6	48.1	43.7	41.4	37.8	34.4

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course (continued)

Course	Number	Type of mark	Mean	SD	Max. Mark	P99	P90	P75	P50	P25
Japanese Background Speakers	26	HSC	41.4	4.1	47.0					
		scaled	21.3	11.8	46.1					
Khmer	16	HSC	41.2	3.6	46.5					
		scaled	21.5	11.4	46.7					
Korean Background Speakers	93	HSC	42.0	3.8	49.0	49.0	46.5	44.5	42.5	39.5
		scaled	24.7	11.4	50.0	50.0	40.2	33.2	24.1	15.0
Latin Continuers	184	HSC	44.9	3.8	49.5	49.5	48.5	47.5	46.0	43.0
		scaled	39.9	6.8	50.0	49.6	47.8	44.8	41.4	35.4
Latin Extension	102	HSC	45.8	4.3	50.0	50.0	49.0	48.0	47.0	44.0
		scaled	41.1	7.1	50.0	49.8	47.8	46.1	43.3	36.9
Macedonian	27	HSC	40.1	5.2	47.0					
		scaled	20.3	13.5	43.1					
Modern Greek Beginners	44	HSC	40.6	7.4	50.0	50.0	49.0	46.0	42.5	35.5
		scaled	23.5	13.0	48.7	48.7	42.2	33.7	23.5	11.8
Modern Greek Continuers	115	HSC	40.1	5.1	49.5	49.0	45.5	43.5	41.0	37.5
		scaled	25.0	9.6	47.5	46.6	37.1	31.6	25.2	18.0
Modern Greek Extension	45	HSC	42.4	4.8	50.0	50.0	48.0	46.0	42.0	39.0
		scaled	31.0	5.7	43.3	43.3	37.8	35.2	30.3	27.1
Modern Hebrew	39	HSC	44.9	2.4	48.5					
		scaled	36.4	9.0	50.0					
Persian	31	HSC	39.5	5.4	49.0					
		scaled	15.8	12.1	45.8					
Polish	35	HSC	44.8	3.7	49.0					
		scaled	27.0	11.3	49.4					
Portuguese	19	HSC	37.4	5.5	46.0					
		scaled	23.5	12.0	48.1					
Russian	20	HSC	43.1	3.8	48.0					
		scaled	26.7	9.6	45.0					
Serbian	30	HSC	41.4	4.2	47.5					
		scaled	23.4	12.5	49.3					
Spanish Beginners	124	HSC	35.2	10.6	49.5	49.5	47.0	41.5	37.0	31.0
		scaled	24.9	12.5	50.0	49.0	42.6	32.2	24.8	16.2
Spanish Continuers	190	HSC	40.6	3.5	49.0	47.0	44.5	43.0	41.0	38.5
		scaled	24.4	10.0	49.0	44.5	37.3	31.4	24.5	17.8
Spanish Extension	71	HSC	39.8	4.0	49.0	49.0	45.0	43.0	39.0	37.0
		scaled	30.4	7.4	48.1	48.1	38.6	35.6	29.6	25.6
Turkish	56	HSC	40.6	3.2	47.0	47.0	44.5	43.0	40.5	38.5
		scaled	16.9	10.6	42.5	42.5	32.6	25.9	12.8	8.3
Vietnamese	162	HSC	37.8	5.3	46.5	46.0	43.0	41.0	38.5	36.0
		scaled	21.7	10.8	48.2	46.9	37.1	29.8	21.0	13.8
Accounting	497	HSC	38.2	6.7	50.0	49.0	46.0	43.5	39.0	33.5
		scaled	28.1	11.8	50.0	48.0	43.4	37.6	28.6	19.0
Automotive Exam	293	HSC	36.2	4.8	46.0	45.0	42.0	39.5	37.0	33.5
		scaled	13.4	8.9	35.5	34.4	26.9	19.4	12.8	6.2
Business Services Exam	1 397	HSC	35.7	5.1	47.0	45.0	41.0	39.0	36.5	33.5
		scaled	18.3	9.5	41.7	38.8	31.4	25.2	18.4	11.2
Construction Exam	1 395	HSC	34.9	4.4	46.5	44.5	40.5	37.5	35.0	32.0
		scaled	15.4	9.1	38.0	36.5	28.4	21.4	14.7	8.0

Table A3 Descriptive statistics and selected percentiles for HSC marks and scaled marks by course (continued)

Course	Number	Type of mark	Mean	SD	Max. Mark	P99	P90	P75	P50	P25
Electrotechnology Exam	135	HSC	37.1	4.3	47.0	46.5	42.5	40.5	37.0	34.5
		scaled	17.7	8.0	37.4	37.1	28.8	23.7	16.3	12.0
Entertainment Exam	846	HSC	35.7	5.6	48.5	46.5	42.5	39.5	36.0	32.0
		scaled	21.2	9.0	43.4	40.9	33.5	28.0	20.7	14.0
Hospitality Exam	5 362	HSC	37.3	4.7	48.5	46.5	43.0	40.5	37.5	34.5
		scaled	20.2	9.6	44.0	41.6	33.7	27.2	19.6	13.0
Information Technology Exam	1 655	HSC	35.1	5.5	47.0	45.0	41.0	38.5	35.5	32.5
		scaled	19.2	9.2	41.5	38.8	30.5	26.0	19.1	12.6
Metal & Engineering Exam	648	HSC	35.4	6.0	48.0	46.0	42.5	39.5	36.0	33.0
		scaled	15.6	8.7	37.2	35.2	28.4	22.0	14.8	9.2
Primary Industries Exam	506	HSC	37.1	4.4	48.5	46.0	43.0	40.0	37.5	34.0
		scaled	17.3	9.1	39.7	37.0	30.5	24.0	17.0	9.8
Retail Services Exam	1 112	HSC	36.8	3.9	47.5	45.5	41.5	39.5	37.0	34.5
		scaled	17.2	9.4	40.7	38.7	30.3	24.6	16.6	10.0
Tourism Exam	312	HSC	37.6	3.9	47.5	45.5	42.5	40.5	37.5	35.0
		scaled	21.8	8.8	43.5	41.1	34.5	27.8	21.1	15.6
Distinction Courses	66	HSC	43.0	3.8	50.0	50.0	47.5	45.5	42.5	41.0
		scaled	40.7	7.6	50.0	50.0	48.9	46.7	41.0	37.3

Table A4 Distributions of HSC marks by course: 2008 – 2009

Notes: (i) ***Columns 45, 40, 35, 30 and 25*** *show the percentage of a course candidature with an HSC mark less than the specified mark.*

(ii) The table excludes courses with less than 40 students in either year.

Course	Year	Number	Percentage of students with HSC marks less than:				
			45	40	35	30	25
Aboriginal Studies	2009	325	88.9	63.7	29.8	12.3	3.1
	2008	277	92.4	69.3	41.2	12.6	2.2
Agriculture	2009	1 249	91.7	72.6	45.0	16.8	5.5
	2008	1 278	91.2	68.2	37.1	13.4	4.4
Ancient History	2009	11 954	88.3	63.0	37.5	14.3	5.1
	2008	11 180	88.7	62.5	38.1	18.6	5.2
Biology	2009	15 308	93.2	68.2	35.9	9.7	1.5
	2008	15 254	92.5	68.3	34.7	10.6	2.3
Business Studies	2009	15 672	91.9	62.2	31.9	10.5	2.3
	2008	16 181	93.8	68.1	39.0	13.9	3.3
Chemistry	2009	10 041	89.1	61.2	28.6	9.4	3.3
	2008	10 154	87.2	61.6	29.7	11.0	2.6
Community & Family Studies	2009	5 208	94.1	71.0	35.7	10.9	2.8
	2008	5 053	90.4	60.1	26.7	7.6	2.0
Dance	2009	763	90.3	64.7	27.7	3.7	0.3
	2008	675	92.0	69.5	28.7	4.7	0.7
Design & Technology	2009	3 632	91.5	65.5	27.8	5.1	0.5
	2008	3 739	92.6	64.7	28.5	5.2	0.5
Drama	2009	4 772	87.7	52.7	17.9	3.3	0.1
	2008	4 961	88.9	51.5	16.2	2.2	0.1
Earth & Environmental Science	2009	1 393	92.0	59.3	21.7	4.6	0.6
	2008	1 258	87.0	54.1	26.1	8.0	2.4
Economics	2009	6 136	86.0	52.8	27.2	12.1	5.2
	2008	5 410	83.6	52.6	28.0	12.6	5.1
Engineering Studies	2009	1 618	91.1	60.9	25.5	6.2	1.6
	2008	1 748	92.4	68.8	33.5	9.2	2.9
English Standard	2009	32 454	99.8	94.6	63.8	22.5	7.2
	2008	32 191	99.8	94.0	61.9	20.6	5.8
English Advanced	2009	27 248	88.7	48.0	11.2	1.0	0.1
	2008	27 438	89.2	50.6	10.8	0.9	0.1
English Extension 1	2009	5 718	77.5	42.9	15.7	3.7	0.9
	2008	5 694	74.2	40.9	16.0	3.5	0.7
English Extension 2	2009	2 165	71.8	43.1	20.1	7.4	2.4
	2008	2 209	69.5	41.1	17.9	4.7	1.3
English as a Second Language	2009	3 248	97.3	78.2	43.8	14.4	2.9
	2008	2 837	96.7	71.8	40.1	14.1	4.2
Food Technology	2009	3 421	91.8	69.4	30.5	8.4	2.1
	2008	3 445	92.8	71.0	31.1	9.4	2.7
Geography	2009	4 556	88.7	60.1	32.3	10.1	2.5
	2008	4 299	85.0	51.9	25.8	9.0	2.8
Industrial Technology	2009	3 701	89.3	67.4	38.2	14.3	4.4
	2008	3 648	90.8	68.2	36.9	13.5	4.1
Information Processes & Technology	2009	5 078	91.7	68.1	34.7	11.2	4.4
	2008	5 108	93.5	68.5	37.3	16.0	7.3

Table A4 Distributions of HSC marks by course: 2008 - 2009 (continued)

Course	Year	Number	Percentage of students with HSC marks less than:				
			45	40	35	30	25
Legal Studies	2009	8 203	88.0	57.3	32.5	13.3	4.9
	2008	8 355	89.8	57.8	27.6	8.5	1.7
General Mathematics	2009	29 909	94.1	75.1	45.4	18.4	6.6
	2008	29 977	95.2	74.1	43.7	17.2	6.1
Mathematics	2009	17 197	84.2	57.4	28.9	10.5	5.2
	2008	17 247	83.2	55.0	27.8	12.1	3.2
Mathematics Extension 1	2009	8 630	65.5	37.9	18.1	7.6	2.9
	2008	8 548	66.6	39.9	18.2	8.5	3.9
Mathematics Extension 2	2009	3 170	60.0	29.6	10.5	4.5	1.8
	2008	3 089	62.9	30.1	9.5	3.6	1.6
Modern History	2009	9 662	90.8	58.9	21.8	6.3	1.4
	2008	9 637	90.3	58.2	22.6	7.5	2.6
History Extension	2009	2 210	76.6	48.9	26.2	11.8	4.8
	2008	2 114	80.0	51.3	26.7	13.1	4.4
Music 1	2009	4 882	85.0	42.0	12.5	1.9	0.2
	2008	4 886	85.2	45.9	14.6	2.6	0.7
Music 2	2009	733	71.9	18.3	2.2	0.3	0.0
	2008	748	69.7	21.4	2.8	0.0	
Music Extension	2009	440	48.2	19.5	5.0	1.1	0.2
	2008	441	48.1	20.4	6.3	1.1	0.2
PDH&PE	2009	12 762	91.5	68.2	39.5	12.5	3.4
	2008	12 871	91.7	67.6	36.1	14.0	3.5
Physics	2009	9 023	88.5	58.2	31.2	11.6	2.6
	2008	9 029	92.0	67.0	33.8	10.7	3.5
Senior Science	2009	4 802	92.3	63.6	32.3	7.1	1.6
	2008	4 592	90.3	60.9	28.8	6.5	1.9
Society & Culture	2009	3 925	93.1	58.4	28.5	9.3	1.4
	2008	4 150	93.1	63.4	34.7	13.8	3.6
Software Design & Development	2009	1 722	93.3	71.1	37.5	10.2	1.3
	2008	1 785	89.9	60.1	29.9	7.8	0.7
Studies of Religion I	2009	9 799	88.7	51.3	17.1	3.6	0.6
	2008	9 950	89.5	56.3	22.5	5.7	1.4
Studies of Religion II	2009	3 950	85.8	47.1	17.2	4.8	0.8
	2008	3 554	88.5	51.2	19.8	5.9	1.1
Textiles & Design	2009	2 159	86.5	54.5	23.6	5.9	0.6
	2008	2 205	87.2	46.5	20.6	4.2	0.4
Visual Arts	2009	9 567	87.7	45.9	9.7	1.3	0.2
	2008	9 691	85.5	38.8	8.3	1.0	0.1
Arabic Continuers	2009	211	97.2	64.5	32.7	9.5	4.3
	2008	249	94.4	58.2	32.1	7.2	3.2
Arabic Extension	2009	59	91.5	64.4	33.9	16.9	5.1
	2008	78	94.9	78.2	41.0	17.9	6.4
Chinese Continuers	2009	131	58.8	16.8	6.1	2.3	0.0
	2008	85	64.7	18.8	5.9	1.2	0.0
Chinese Background Speakers	2009	1 393	90.9	42.4	7.0	0.5	0.0
	2008	1 064	89.5	43.3	7.0	1.0	0.1
French Beginners	2009	528	83.3	59.7	35.6	11.9	3.4
	2008	622	81.2	57.4	38.1	19.1	5.8

Table A4 Distributions of HSC marks by course: 2008 - 2009 (continued)

Course	Year	Number	Percentage of students with HSC marks less than:				
			45	40	35	30	25
French Continuers	2009	887	73.8	44.2	15.0	3.3	0.9
	2008	851	69.1	39.1	11.9	2.6	0.8
French Extension	2009	216	49.1	18.5	6.9	0.0	
	2008	212	49.1	22.6	8.0	2.4	0.5
German Beginners	2009	85	81.2	48.2	28.2	8.2	1.2
	2008	137	83.2	58.4	26.3	13.1	8.8
German Continuers	2009	330	76.7	50.0	25.8	8.2	2.7
	2008	376	75.0	48.7	24.2	7.2	1.9
German Extension	2009	105	73.3	47.6	26.7	8.6	2.9
	2008	107	52.3	20.6	3.7	1.9	0.9
Indonesian Continuers	2009	77	68.8	33.8	19.5	11.7	0.0
	2008	65	69.2	47.7	23.1	3.1	1.5
Indonesian Background Speakers	2009	98	95.9	68.4	19.4	0.0	
	2008	69	95.7	66.7	15.9	0.0	
Italian Beginners	2009	413	81.1	58.8	29.1	10.7	3.9
	2008	318	84.0	57.5	32.4	16.4	3.8
Italian Continuers	2009	334	79.9	41.9	17.4	3.9	1.8
	2008	346	85.5	48.6	17.1	3.8	1.2
Italian Extension	2009	68	89.7	42.6	5.9	1.5	0.0
	2008	56	76.8	50.0	23.2	8.9	5.4
Japanese Beginners	2009	760	84.9	61.7	37.6	16.8	4.9
	2008	770	84.4	61.8	34.8	15.1	4.2
Japanese Continuers	2009	800	77.5	44.4	22.9	6.8	1.1
	2008	708	78.8	45.3	21.9	6.5	1.3
Japanese Extension	2009	283	73.9	43.1	20.1	6.4	1.4
	2008	267	82.8	55.8	26.2	12.7	4.1
Korean Background Speakers	2009	93	76.3	25.8	4.3	1.1	0.0
	2008	102	74.5	32.4	4.9	2.0	0.0
Latin Continuers	2009	184	35.3	10.9	2.2	0.0	
	2008	217	33.6	9.2	0.9	0.0	
Latin Extension	2009	102	25.5	6.9	2.9	1.0	1.0
	2008	122	11.5	2.5	1.6	0.0	
Modern Greek Continuers	2009	115	85.2	40.0	8.7	5.2	1.7
	2008	125	84.8	44.0	17.6	8.0	3.2
Modern Greek Extension	2009	45	55.6	26.7	6.7	2.2	0.0
	2008	47	72.3	38.3	14.9	0.0	
Spanish Beginners	2009	124	83.1	62.9	37.1	21.8	11.3
	2008	162	82.7	62.3	35.2	17.9	7.4
Spanish Continuers	2009	190	90.0	34.7	7.9	0.0	
	2008	163	92.0	36.2	9.2	0.6	0.0
Spanish Extension	2009	71	88.7	50.7	7.0	1.4	0.0
	2008	57	87.7	42.1	17.5	5.3	1.8
Turkish	2009	56	92.9	41.1	1.8	0.0	
	2008	48	81.3	25.0	6.3	2.1	2.1
Vietnamese	2009	162	98.1	63.6	17.9	7.4	2.5
	2008	145	97.9	58.6	6.2	0.7	0.0
Accounting	2009	497	84.7	54.5	31.2	10.5	2.4
	2008	518	85.1	58.1	34.6	15.8	6.4

Table A4 Distributions of HSC marks by course: 2008 - 2009 (continued)

Course	Year	Number	Percentage of students with HSC marks less than:				
			45	40	35	30	25
Business Services Exam	2009	1 397	98.5	81.7	37.2	9.2	2.1
	2008	1 393	97.9	82.7	37.7	5.6	0.6
Construction Exam	2009	1 395	99.5	87.4	45.2	11.8	1.1
	2008	1 310	99.1	80.2	41.1	8.0	0.2
Entertainment Exam	2009	846	95.4	77.3	40.2	13.8	3.5
	2008	826	95.0	65.7	31.0	9.3	1.7
Hospitality Exam	2009	5 362	95.3	69.5	27.5	5.7	0.8
	2008	5 434	94.7	73.9	32.1	8.7	0.6
Information Technology Exam	2009	1 655	98.9	81.7	45.3	13.8	3.4
	2008	1 833	98.4	81.4	35.4	9.6	1.3
Metal & Engineering Exam	2009	648	97.8	80.1	40.0	15.3	5.1
	2008	560	98.8	80.9	48.0	15.0	2.3
Primary Industries Exam	2009	506	96.4	74.9	31.8	4.2	0.2
	2008	534	94.8	72.1	32.6	6.6	0.4
Retail Services Exam	2009	1 112	98.7	76.7	26.9	3.9	0.4
	2008	1 231	97.0	67.5	23.4	7.3	0.6
Tourism Exam	2009	312	96.8	71.2	22.8	1.9	0.0
	2008	364	97.5	78.0	28.0	4.1	0.0
Distinction Courses	2009	66	68.2	9.1	1.5	1.5	0.0
	2008	92	80.4	41.3	6.5	1.1	0.0

Table A5 Distributions of scaled marks by course: 2008 – 2009

Notes: (i) ***Columns 45, 40, 35, 30, 25, 20 and 15*** *show the percentage of a course candidature with a scaled mark less than the specified mark.*

(ii) The table excludes courses with less than 40 students in either year.

Course	Year	Number	Percentage of students with scaled marks less than:						
			45	40	35	30	25	20	15
Aboriginal Studies	2009	325	100.0	98.8	92.9	86.2	77.2	70.2	55.7
	2008	277	100.0	96.4	91.7	86.3	76.5	69.3	60.3
Agriculture	2009	1 249	99.4	95.4	89.0	79.2	64.9	50.3	33.6
	2008	1 278	99.5	93.2	85.2	75.9	61.8	46.6	30.8
Ancient History	2009	11 954	99.1	92.5	79.6	64.0	48.8	34.3	21.4
	2008	11 180	98.4	92.1	80.1	64.8	47.8	33.3	21.0
Biology	2009	15 308	99.2	92.7	77.7	58.7	40.7	25.5	13.5
	2008	15 254	98.8	90.6	76.1	58.8	41.5	25.7	13.6
Business Studies	2009	15 672	99.3	94.4	84.0	69.7	54.2	37.6	23.0
	2008	16 181	99.7	94.7	83.4	68.5	53.4	38.0	23.0
Chemistry	2009	10 041	97.2	80.9	58.5	38.1	23.0	13.0	6.1
	2008	10 154	97.1	80.8	58.4	38.0	23.3	12.9	5.8
Community & Family Studies	2009	5 208	100.0	98.0	91.6	81.4	67.2	51.6	34.9
	2008	5 053	100.0	98.7	91.8	81.5	68.1	53.1	36.1
Dance	2009	763	99.5	96.5	87.0	76.3	60.4	40.4	22.8
	2008	675	99.1	94.7	86.4	76.9	59.3	38.7	17.9
Design & Technology	2009	3 632	99.7	96.1	88.7	78.1	63.7	47.2	29.4
	2008	3 739	99.9	96.4	89.2	78.1	63.7	47.2	29.1
Drama	2009	4 772	98.6	93.0	82.6	68.0	50.4	33.6	19.3
	2008	4 961	98.9	93.6	83.6	69.6	52.2	34.5	19.7
Earth & Environmental Science	2009	1 393	99.6	94.3	84.0	67.4	49.2	32.4	17.5
	2008	1 258	99.4	94.8	83.2	66.7	49.8	33.2	19.2
Economics	2009	6 136	96.8	81.6	60.5	41.0	26.3	16.0	9.6
	2008	5 410	96.4	80.5	58.4	40.4	27.4	17.0	10.0
Engineering Studies	2009	1 618	99.2	92.6	81.6	66.5	46.0	28.2	13.4
	2008	1 748	99.8	95.0	83.7	65.1	47.7	29.3	14.6
English Standard	2009	32 454	99.9	99.6	97.7	92.3	80.1	61.1	37.4
	2008	32 191	99.9	99.5	97.7	91.9	80.1	61.0	38.0
English Advanced	2009	27 248	96.6	82.9	63.8	41.0	22.7	9.9	3.0
	2008	27 438	97.0	83.5	63.5	42.3	23.4	10.2	3.2
English Extension 1	2009	5 718	95.6	67.7	36.0	15.0	6.0	2.6	0.8
	2008	5 694	95.2	68.0	36.1	15.4	5.6	2.1	0.5
English Extension 2	2009	2 165	90.3	68.0	38.3	16.6	6.0	2.0	0.6
	2008	2 209	89.3	67.0	39.0	16.5	5.7	1.7	0.5
English as a Second Language	2009	3 248	99.4	95.0	86.4	76.0	61.9	48.3	35.3
	2008	2 837	98.6	93.2	85.0	73.3	59.4	45.7	32.5
Food Technology	2009	3 421	99.7	96.1	88.8	78.5	65.0	50.1	33.4
	2008	3 445	99.8	96.2	88.7	77.6	65.8	50.3	33.6
Geography	2009	4 556	98.7	91.8	79.3	63.8	47.3	30.9	17.7
	2008	4 299	98.9	91.9	77.7	61.3	44.2	29.2	16.9
Industrial Technology	2009	3 701	100.0	99.9	96.0	88.3	78.0	64.3	47.6
	2008	3 648	100.0	99.9	96.5	89.6	77.7	63.5	46.3
Information Processes & Technology	2009	5 078	99.9	97.1	89.2	77.2	61.2	45.3	30.2
	2008	5 108	99.8	97.1	87.9	75.0	59.4	43.7	27.8
Legal Studies	2009	8 203	98.8	91.4	78.8	62.7	46.0	31.6	19.5
	2008	8 355	98.7	92.4	80.5	65.0	48.2	32.6	19.6

Table A5 Distributions of scaled marks by course: 2008 – 2009 (continued)

Course	Year	Number	Percentage of students with scaled marks less than:						
			45	40	35	30	25	20	15
General Mathematics	2009	29 909	99.9	98.0	90.3	77.8	63.0	47.2	30.9
	2008	29 977	99.9	98.1	90.3	77.9	62.5	46.4	30.5
Mathematics	2009	17 197	96.5	83.2	64.6	44.7	27.3	14.9	7.4
	2008	17 247	95.9	82.0	64.4	45.7	28.0	15.3	7.4
Mathematics Extension 1	2009	8 630	70.6	37.7	19.3	10.1	5.2	2.7	1.3
	2008	8 548	74.1	41.0	18.8	9.2	4.4	2.1	0.9
Mathematics Extension 2	2009	3 170	39.3	10.7	4.2	1.7	0.5	0.2	0.0
	2008	3 089	43.4	11.5	3.6	1.7	0.7	0.3	0.2
Modern History	2009	9 662	97.8	89.4	73.5	54.6	37.8	24.2	14.2
	2008	9 637	98.7	90.8	75.1	55.2	37.3	23.8	14.5
History Extension	2009	2 210	98.2	83.1	54.4	25.8	9.0	2.4	0.5
	2008	2 114	98.2	82.2	53.3	25.4	9.3	2.9	0.7
Music 1	2009	4 882	99.3	94.9	87.7	76.6	61.7	43.5	25.9
	2008	4 886	99.3	94.9	87.5	77.0	62.2	44.6	26.7
Music 2	2009	733	93.6	77.2	59.8	35.9	15.6	5.6	1.9
	2008	748	95.6	82.2	61.9	38.9	20.2	6.4	1.3
Music Extension	2009	440	86.8	72.7	51.8	30.2	11.1	3.4	1.1
	2008	441	86.4	77.1	58.5	28.8	11.1	2.3	0.5
PDH&PE	2009	12 762	99.6	94.9	84.9	71.3	55.8	39.6	23.9
	2008	12 871	99.6	95.1	85.3	71.0	55.0	38.5	23.7
Physics	2009	9 023	97.5	82.7	62.8	43.6	28.4	16.3	8.0
	2008	9 029	97.3	83.6	63.2	44.1	28.0	16.0	7.8
Senior Science	2009	4 802	100.0	98.6	93.6	83.4	68.9	52.3	34.5
	2008	4 592	100.0	98.7	93.1	82.4	69.6	53.6	35.5
Society & Culture	2009	3 925	98.5	93.6	84.5	70.4	53.6	37.0	22.9
	2008	4 150	98.4	93.4	83.3	68.7	51.7	35.9	22.2
Software Design & Development	2009	1 722	99.4	94.8	84.0	67.1	48.7	32.7	18.7
	2008	1 785	99.8	94.9	84.2	68.9	50.1	34.6	21.1
Studies of Religion I	2009	9 799	99.2	93.1	79.1	60.3	38.7	20.9	9.0
	2008	9 950	99.4	93.4	80.6	61.6	39.7	21.3	8.9
Studies of Religion II	2009	3 950	98.1	90.0	74.3	56.1	37.3	22.5	11.5
	2008	3 554	97.7	89.5	76.0	56.6	38.0	21.9	10.4
Textiles & Design	2009	2 159	99.6	95.1	87.0	74.5	58.5	42.7	26.0
	2008	2 205	99.0	94.5	85.7	73.2	59.9	44.4	27.8
Visual Arts	2009	9 567	98.7	93.2	84.2	72.5	59.0	42.0	25.5
	2008	9 691	98.7	93.1	84.3	72.4	58.4	42.8	26.2
Arabic Continuers	2009	211	100.0	97.6	93.8	84.4	74.4	61.1	42.7
	2008	249	100.0	99.6	93.6	86.3	77.5	63.9	48.2
Arabic Extension	2009	59	100.0	98.3	91.5	79.7	54.2	30.5	16.9
	2008	78	100.0	98.7	94.9	79.5	46.2	26.9	12.8
Chinese Continuers	2009	131	92.4	77.9	54.2	36.6	22.9	13.0	6.1
	2008	85	90.6	68.2	48.2	30.6	18.8	8.2	5.9
Chinese Background Speakers	2009	1 393	99.3	95.6	87.9	79.2	68.5	54.9	38.8
	2008	1 064	99.4	94.8	86.9	75.0	62.2	46.9	31.3
French Beginners	2009	528	97.9	91.5	79.7	65.2	47.2	30.5	15.2
	2008	622	97.6	91.2	81.7	67.7	51.6	38.3	23.5
French Continuers	2009	887	91.9	72.9	50.7	30.3	16.0	6.5	2.4
	2008	851	92.5	70.6	50.3	27.0	13.7	7.2	2.1
French Extension	2009	216	78.2	36.1	13.0	3.7	0.0		
	2008	212	78.3	41.5	18.4	5.7	1.9	0.5	0.5

Table A5 Distributions of scaled marks by course: 2008 – 2009 (continued)

Course	Year	Number	Percentage of students with scaled marks less than:						
			45	40	35	30	25	20	15
German Beginners	2009	85	94.1	81.2	71.8	52.9	43.5	28.2	17.6
	2008	137	96.4	89.8	73.7	59.9	46.7	28.5	16.1
German Continuers	2009	330	89.4	70.6	50.6	33.9	20.0	7.9	2.7
	2008	376	93.6	76.3	54.0	38.6	21.3	10.4	4.3
German Extension	2009	105	90.5	55.2	25.7	5.7	1.9	0.0	
	2008	107	88.8	47.7	8.4	1.9	0.9	0.0	
Indonesian Continuers	2009	77	90.9	74.0	61.0	37.7	24.7	14.3	11.7
	2008	65	93.8	73.8	58.5	47.7	27.7	10.8	3.1
Indonesian Background Speakers	2009	98	95.9	88.8	69.4	51.0	27.6	9.2	1.0
	2008	69	94.2	84.1	65.2	46.4	18.8	2.9	0.0
Italian Beginners	2009	413	97.1	86.2	78.5	64.6	48.2	31.7	15.3
	2008	318	97.5	92.1	79.9	61.6	46.5	32.7	19.5
Italian Continuers	2009	334	96.7	88.6	74.0	55.4	32.6	20.4	7.8
	2008	346	96.0	87.0	69.7	51.2	34.4	17.3	7.5
Italian Extension	2009	68	94.1	66.2	25.0	5.9	1.5	0.0	
	2008	56	91.1	64.3	30.4	10.7	5.4	3.6	1.8
Japanese Beginners	2009	760	98.8	92.6	82.6	66.2	52.6	38.7	24.9
	2008	770	99.4	94.4	84.3	68.7	51.0	35.5	21.2
Japanese Continuers	2009	800	93.8	78.1	57.3	38.0	26.4	14.8	6.8
	2008	708	95.6	78.8	56.4	38.3	24.7	12.1	4.4
Japanese Extension	2009	283	95.4	67.5	30.0	8.5	2.1	0.0	
	2008	267	88.4	61.4	26.2	10.1	3.0	1.1	0.0
Korean Background Speakers	2009	93	95.7	89.2	80.6	65.6	51.6	38.7	25.8
	2008	102	98.0	90.2	81.4	66.7	49.0	35.3	27.5
Latin Continuers	2009	184	78.3	41.3	23.9	10.3	3.3	2.2	0.0
	2008	217	76.0	43.8	24.0	10.6	4.1	0.9	0.0
Latin Extension	2009	102	63.7	36.3	13.7	4.9	3.9	2.0	1.0
	2008	122	70.5	37.7	15.6	4.9	2.5	1.6	0.0
Modern Greek Continuers	2009	115	98.3	93.9	86.1	67.8	49.6	30.4	14.8
	2008	125	97.6	93.6	80.0	69.6	52.0	36.0	21.6
Modern Greek Extension	2009	45	100.0	95.6	68.9	48.9	11.1	2.2	0.0
	2008	47	97.9	89.4	78.7	53.2	25.5	8.5	0.0
Spanish Beginners	2009	124	95.2	85.5	76.6	63.7	51.6	33.1	21.8
	2008	162	96.3	89.5	80.9	66.7	60.5	43.2	29.0
Spanish Continuers	2009	190	99.5	93.2	82.6	71.6	51.6	33.7	17.9
	2008	163	99.4	95.7	89.6	74.2	55.8	35.0	26.4
Spanish Extension	2009	71	97.2	90.1	73.2	50.7	23.9	5.6	1.4
	2008	57	100.0	94.7	80.7	57.9	29.8	12.3	5.3
Turkish	2009	56	100.0	98.2	96.4	87.5	73.2	60.7	51.8
	2008	48	97.9	97.9	91.7	81.3	70.8	62.5	45.8
Vietnamese	2009	162	98.1	95.1	84.0	76.5	64.2	46.9	30.9
	2008	145	97.9	94.5	86.2	77.2	64.1	49.0	28.3
Accounting	2009	497	94.4	81.7	66.4	52.3	41.7	27.6	15.5
	2008	518	94.0	80.9	69.5	56.8	40.5	29.9	18.1
Business Services Exam	2009	1 397	100.0	99.1	95.1	87.9	73.4	56.3	39.9
	2008	1 393	100.0	99.3	94.8	87.0	73.9	59.2	41.3
Construction Exam	2009	1 395		100.0	97.8	92.1	82.9	69.4	52.7
	2008	1 310		100.0	98.2	91.1	80.2	65.3	48.1
Entertainment Exam	2009	846	100.0	98.3	92.6	83.2	64.9	46.6	28.0
	2008	826	100.0	98.1	93.6	82.3	65.5	45.5	27.1

Table A5 Distributions of scaled marks by course: 2008 – 2009 (continued)

Course	Year	Number	Percentage of students with scaled marks less than:						
			45	40	35	30	25	20	15
Hospitality Exam	2009	5 362	100.0	98.1	92.7	82.6	69.5	51.2	33.5
	2008	5 434	100.0	98.6	93.1	83.7	70.6	52.1	35.0
Information Technology Exam	2009	1 655	100.0	99.6	96.3	87.4	69.1	52.6	33.4
	2008	1 833	100.0	99.6	95.0	86.0	75.0	55.5	38.5
Metal & Engineering Exam	2009	648		100.0	98.8	93.7	81.5	70.5	52.2
	2008	560		100.0	99.6	95.7	80.9	65.7	50.5
Primary Industries Exam	2009	506		100.0	96.4	88.9	78.5	62.3	43.9
	2008	534	100.0	99.6	95.7	87.8	80.5	63.5	47.6
Retail Services Exam	2009	1 112	100.0	99.8	96.3	88.1	76.7	64.6	44.6
	2008	1 231	100.0	99.5	96.1	89.8	79.9	63.4	48.3
Tourism Exam	2009	312	100.0	97.8	91.3	81.4	66.3	42.9	22.8
	2008	364	100.0	99.2	92.3	81.9	64.6	46.4	23.1
Distinction Courses	2009	66	65.2	48.5	15.2	7.6	3.0	1.5	1.5
	2008	92	70.7	41.3	16.3	6.5	3.3	1.1	1.1

Table A6 Courses that contribute to the ATAR

*Notes: (i) This table shows the percentage of the course candidature who completed more than 10 units of ATAR courses for whom **all** units of that course contributed to their ATAR.*

*(ii) The **Number receiving ATAR** column shows the number of students who did the course in 2009 or a previous year, and received an ATAR in 2009.*

*(iii) The **ATAR students with > 10 units** columns show the number and percentage of ATAR students who completed more than 10 units of ATAR courses.*

*(iv) The **Percentage who counted course** column shows the percentage of ATAR students who completed more than 10 units of ATAR courses for whom all units of that course contributed towards their ATAR.*

(v) The table excludes courses with less than 10 students.

Course	Number receiving ATAR	ATAR students with > 10 units		Percentage who counted course
		Number	Percentage	
Aboriginal Studies	201	51	25	82
Agriculture	996	491	49	74
Ancient History	10 978	5 055	46	85
Biology	14 741	7 809	53	81
Business Studies	14 435	6 452	45	85
Chemistry	9 945	6 763	68	75
Community & Family Studies	4 027	1 424	35	88
Dance	658	216	33	67
Design & Technology	3 115	1 254	40	76
Drama	4 252	1 753	41	76
Earth & Environmental Science	1 323	634	48	81
Economics	6 061	3 693	61	78
Engineering Studies	1 569	903	58	73
English Standard	22 835	8 024	35	100
English Advanced	26 741	15 204	57	98
English Extension 1	5 697	4 157	73	86
English Extension 2	2 157	1 400	65	84
English as a Second Language	2 826	974	34	100
Food Technology	2 753	1 070	39	84
Geography	4 198	2 083	50	84
Industrial Technology	1 981	822	41	60
Information Processes & Technology	4 520	2 190	48	78
Legal Studies	7 731	3 607	47	85
General Mathematics	24 794	9 320	38	71
Mathematics	16 174	10 310	64	69
Mathematics Extension 1	8 517	6 654	78	92
Mathematics Extension 2	3 157	1 937	61	98
Modern History	9 143	4 690	51	83
History Extension	2 201	1 760	80	81
Music 1	4 112	1 703	41	61
Music 2	740	574	78	67
Music Extension	444	383	86	73
PDH&PE	11 314	4 741	42	84
Physics	8 917	5 812	65	77
Senior Science	3 953	1 618	41	85
Society & Culture	3 472	1 295	37	87
Software Design & Development	1 645	875	53	74
Studies of Religion I	9 335	8 556	92	79

Table A6 Courses that contribute to the ATAR (continued)

Course	Number receiving ATAR	ATAR students with > 10 units		Percentage who counted course
		Number	Percentage	
Studies of Religion II	3 848	1 700	44	84
Textiles & Design	1 812	634	35	82
Visual Arts	8 135	3 222	40	75
Arabic Continuers	188	97	52	70
Arabic Extension	54	47	87	85
Armenian	28	17	61	65
Chinese Continuers	131	94	72	65
Chinese Extension	59	49	83	61
Chinese Background Speakers	1 249	419	34	69
Classical Greek Continuers	11	11	100	73
Classical Hebrew Continuers	36	26	72	85
Classical Hebrew Extension	25	22	88	68
Croatian	12	5	42	80
Filipino	28	10	36	40
French Beginners	490	200	41	76
French Continuers	859	611	71	67
French Extension	210	182	87	87
German Beginners	82	39	48	82
German Continuers	337	237	70	65
German Extension	107	93	87	85
Hindi	35	29	83	34
Indonesian Beginners	28	11	39	45
Indonesian Continuers	75	54	72	72
Indonesian Extension	25	21	84	86
Indonesian Background Speakers	81	37	46	62
Italian Beginners	366	185	51	70
Italian Continuers	307	225	73	70
Italian Extension	68	63	93	89
Japanese Beginners	718	265	37	70
Japanese Continuers	787	503	64	64
Japanese Extension	286	216	76	81
Japanese Background Speakers	22	6	27	33
Khmer	14	9	64	56
Korean Background Speakers	86	25	29	76
Latin Continuers	193	181	94	68
Latin Extension	101	96	95	68
Macedonian	26	13	50	46
Modern Greek Beginners	35	17	49	59
Modern Greek Continuers	106	77	73	71
Modern Greek Extension	43	40	93	90
Modern Hebrew	41	28	68	61
Persian	27	12	44	92
Polish	36	31	86	55
Portuguese	16	11	69	82
Russian	18	10	56	50
Serbian	31	16	52	81

Table A6 Courses that contribute to the ATAR (continued)

Course	Number receiving ATAR	ATAR students with > 10 units		Percentage who counted course
		Number	Percentage	
Spanish Beginners	102	40	39	75
Spanish Continuers	173	117	68	72
Spanish Extension	67	59	88	86
Turkish	49	22	45	50
Vietnamese	146	67	46	61
Accounting	418	251	60	73
Automotive Exam	127	60	47	58
Business Services Exam	1 082	448	41	78
Construction Exam	675	293	43	65
Electrotechnology Exam	71	41	58	61
Entertainment Exam	686	216	31	76
Hospitality Exam	4 436	1 704	38	78
Information Technology Exam	1 340	573	43	71
Metal & Engineering Exam	285	157	55	63
Primary Industries Exam	278	132	47	70
Retail Services Exam	755	279	37	73
Tourism Exam	243	77	32	70
Distinction Courses	62	62	100	52

Table A7 Number of units students completed, by ATAR

Notes: (i) ATARs are truncated so that, for example, an ATAR of 90 includes all ATARs from 90.00 to 90.95.
*(ii) The **Number** column shows the number of students with each truncated ATAR.*
*(iii) The **Percentage of students who completed** columns show the percentage of students who completed **10, 11, 12, 13, 14, >14 and >10** units.*

ATAR	Number	Percentage of students who completed						
		10 units	11 units	12 units	13 units	14 units	>14 units	>10 units
99	940	19	22	36	14	6	3	81
98	934	26	29	34	8	2	1	74
97	924	25	31	34	8	2	<1	75
96	934	27	33	31	6	1	1	73
95	929	25	32	35	7	1	<1	75
94	920	31	33	30	5	1	<1	69
93	914	30	35	27	6	1	<1	70
92	919	30	36	29	3	1	<1	70
91	918	32	36	27	5	1	<1	68
90	913	34	36	27	3	1	<1	66
89	910	33	33	29	4	1	<1	67
88	898	36	36	24	4	<1		64
87	903	35	38	23	4	1	<1	65
86	893	37	34	27	3	<1	<1	63
85	889	38	32	26	3	<1		62
84	900	39	32	25	3	<1		61
83	881	41	34	22	3			59
82	858	43	32	21	3	<1		57
81	867	41	34	23	3	<1	<1	59
80	879	46	31	20	3	<1	<1	54
79	864	42	32	22	3	<1	<1	58
78	849	45	31	21	3	<1	<1	55
77	860	46	30	23	2			54
76	843	47	31	19	2			53
75	843	49	28	21	2			51
74	824	47	31	20	2	<1		53
73	804	50	28	19	2	1		50
72	836	50	29	20	1	<1	<1	50
71	783	51	28	19	2	<1		49
70	789	54	28	17	1	<1	<1	46
69	788	57	24	18	1	<1		43
68	751	56	24	18	2	<1		44
67	769	54	26	18	2	<1		46
66	756	59	23	16	2			41
65	737	55	24	19	1		<1	45
64	737	58	24	16	1			42
63	737	57	24	17	1	<1	<1	43
62	675	62	23	14	1			38
61	685	59	23	17	1			41
60	682	64	21	14	1	<1		36

Table A8a Relationship between the ATAR and percentiles

Note: This table shows the ATAR at selected percentiles of the ATAR cohort.

Percentile	ATAR
100	99.95
99	99.40
98	98.85
95	97.15
90	94.35
85	91.50
80	88.60
75	85.70
70	82.75
60	76.70
50	70.25
40	63.30
30	55.50

Table A8b Relationship between the ATAR and aggregates

Note: This table shows aggregates corresponding to selected ATARs. Since there is a range of aggregates corresponding to each ATAR, the aggregates given in this table are the lowest aggregates for the selected ATARs.

ATAR	Lowest aggregate
99.95	478.9
99.50	457.7
99.00	446.6
98.00	431.3
95.00	401.5
90.00	367.4
85.00	340.0
80.00	315.1
75.00	292.4
70.00	271.0
65.00	250.4
60.00	231.1
55.00	212.1
50.00	193.1

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