



Explanatory notes for Year 12 statistical reports, 2012

These notes are provided to assist schools to understand the parameters used by the School Curriculum and Standards Authority in the compilation of statistical reports on Year 12 participation and achievement.

Schools can download the following statistical reports from SIRS:

STS010	<i>Year 12 provider statistics</i>
STS009	<i>Year 12 State statistics</i>
STS022	<i>School assessment statistics</i>
STS028	<i>Year 12 course statistics</i>
STS029	<i>Distribution of exam statistics</i>
STS036	<i>Statistical moderation and concurrent validity of school assessments</i>
MF01, MF02 and MF03	<i>Detailed examination feedback (formerly known as Maximising Feedback)</i>
CSE077	<i>Student summary details by provider.</i>

If you require assistance with SIRS, please contact the SIRS helpdesk at the Authority on 9273 6719 or email SIRShelp@scsa.wa.edu.au.

Schools are reminded that it is best to use the "run report as batch" option when generating reports from SIRS. This option enables users to continue to work in SIRS while the report is processing. The report is sent directly to your email address. This is particularly useful when generating reports that contain a large amount of data.

Note: the Authority is **not** responsible for statistics relating to university admission, such as the scaled score or the Australian Tertiary Admission Rank (ATAR). All enquiries concerning these statistics should be directed to the Tertiary Institutions Service Centre (9318 8000).

STS010 – Year 12 provider statistics (for a school)

This report consists of seven sections and can be downloaded from SIRS using the following pathway:
reports > other reports > report type: statistics > report: Year 12 provider statistics.

Section 1: Summary school statistics

1a Student population

This provides the number of Year 12 students who completed at least one course unit or equivalent and the number of 'repeaters', 're-enterers', overseas students and mature-age students.

Note: 'Completing' a course unit is defined as obtaining either a grade (A, B, C, D, or E) in the course unit or U notation.

'Repeaters' are Year 12 students who complete at least one course unit or equivalent in the year following first enrolment in Year 12.

'Re-enterers' are Year 12 students who complete at least one course unit or equivalent more than one year after first enrolment in Year 12.

'Mature-age' students were aged 19 or more on 1 March of the year in which their results were awarded.

1b Western Australian Certificate of Education (WACE)

This provides the number of full-time students who are eligible to graduate (eligible to achieve the WACE), achieve English language competence and who graduated (achieved the WACE).

The Western Australian Certificate of Education (WACE) is awarded to students who have successfully met the requirements for breadth and depth, the achievement standard and English language competence in their senior secondary schooling.

For 2012, these requirements were:

Breadth and depth

Students must complete at least 20 units of which at least 10 must be from WACE courses.

- The 20 units must include at least:
 - four course units from English, Literature and/or English as an Additional Language/Dialect studied during Year 11 and Year 12 (at least two of these must be completed in Year 12) and
 - one pair of course units from each of List A (arts/languages/social sciences) and List B (mathematics/science/technology) in Year 12.

Achievement standard

Students must achieve a C grade average or better across the best 16 course units of which at least eight must be completed in Year 12.

Preliminary Stage units, endorsed programs and/or VET credit transfer can reduce the required number of course units by up to six units.

English language competence

Students must achieve a C grade or better in any Stage 1 or higher course unit from English, Literature, and/or English as an Additional Language or Dialect (except 1A and 1B for English as an Additional Language or Dialect).

When students have not achieved a C grade in one of their English, Literature and/or English as an Additional Language or Dialect course units, schools may alternatively determine that a student has met the standard for English language competence through a review of samples of work by the student.

The detailed requirements for achievement of the WACE are provided in the information paper *The WACE – Your Guide to the Western Australian Certificate of Education, Statement of Results and Course Report 2012* and also on the Authority's website at http://www.scsa.wa.edu.au/internet/Senior_Secondary/The_WACE/WACE_Requirements.

It has been agreed, in consultation with stakeholders, that the percentage of graduating students is calculated from a base population consisting only of those full-time Year 12 students who could have achieved the WACE (if they had achieved at a suitable standard). The population of full-time students eligible to achieve the WACE is also used as a base when calculating the numbers of WACE examination students, course unit students and VET students.

1c *WACE course unit students*

This provides the number of full-time students who are eligible to achieve the WACE, and who obtained a grade of A, B, C, D or E (or a U notation in exceptional circumstances) in at least two course units. Also included is the number of these students who obtained a grade of A in at least one course unit.

Generally, students taking fewer than four pairs of course units at Stage 2 or Stage 3 in Year 12 are not able to obtain an ATAR, so they may be regarded as not aspiring to university study in the following year.

1d WACE examination students

This provides the number of students who are eligible to achieve the WACE, and who obtained four or more WACE course scores. Usually students aspiring to enter university need at least four scaled scores to obtain an ATAR. Also included is the number of these students who obtained a WACE course score of 75 or more.

1e VET students

This provides the number of full-time students eligible to achieve the WACE who enrolled in at least one VET unit of competency in Year 12.

Also reported are the number of students who achieved one or more VET qualification/s in Year 10, Year 11 or Year 12 and the number of students who achieved a Certificate II or higher in Year 10, Year 11 or Year 12.

Students in this category may also be included in category 1c or category 1d.

1f Endorsed program students

These students are defined as full-time students who are eligible to achieve a WACE, and who were enrolled in at least one endorsed program.

Also reported is the number of students who achieved a result in at least one endorsed program.

Students in this category may also be included in category 1c or category 1d.

Section 2: WACE course units

Table 2 shows the distribution of full-time students eligible to achieve the WACE, by the number of course units completed by each student.

Section 3: WACE course examinations

Table 3 shows the distribution of full-time students eligible to achieve the WACE, by the number of WACE course examinations sat by each student. Sub-totals show the number of students who sat the WACE examination (Stage 2 or Stage 3) in enough courses to obtain an ATAR (at least four) and the number who sat the WACE examination in less than four courses. The number of WACE course examinations sat by a student is defined as the number of WACE course scores obtained.

Section 4: VET studies

VET credit transfer units of competency count towards achievement of the WACE. Where VET units of competency are integrated in Authority courses, they cannot be used to claim VET unit equivalents.

Table 4a shows the distribution of unit equivalents achieved for VET units of competency amongst full-time students eligible to achieve the WACE. A total of 55 nominal hours of VET credit transfer units of competency is equivalent to one course unit.

Table 4b shows the distribution of VET qualifications achieved amongst full-time students eligible to achieve the WACE. Students who have achieved more than one VET qualification will be counted as many times as they have achieved qualifications.

Section 5: Endorsed programs

Endorsed programs count towards the achievement of the WACE.

Table 5 shows the distribution of unit equivalents achieved for endorsed programs amongst full-time students eligible to achieve the WACE. A unit equivalent of an endorsed program is equivalent to one course unit.

Section 6a: Summary of students' results by grade for course units

Table 6a shows the number and percentage of Year 12 students awarded each of the grades (A, B, C, D and E) for each WACE course unit by gender. In addition, statistical tests have been carried out to compare the performance of:

- i) males against females within the school group and within the State
- ii) the school group against the whole State cohort.

Under the heading **better performing group** the following entries may be found:

Entry	Meaning
Males	In this school, males had higher grades than females.
Females	In this school, females had higher grades than males.
School	Students in this school had higher grades than the State average.
State	Students in this school had lower grades than the State average.
NS	The statistical test showed no significant difference between groups.
-	No test was carried out because there were not enough candidates.

Section 6b: Summary of students' completions for P Stage course units

Table 6b shows the number of Year 12 students who completed P Stage course units by gender.

Section 7: Summary of WACE course scores

Table 7 shows the distribution of WACE course scores achieved by students for each Stage 2 and Stage 3 course (i.e. pair of units) offered at a school.

This distribution is shown in two ways:

- i) summary statistics of mean, maximum, minimum and standard deviation of WACE course scores
- ii) counts and percentages of students with WACE course scores in each of the five achievement bands (or standards).

For comparative purposes, the same information is provided at the State level.

STS009 – Year 12 State statistics

This report follows the same format as the Year 12 School Statistics for 2012 report, but applies to the whole of the Western Australian senior secondary education system. This report can be downloaded from SIRS using the following pathway:

reports > other reports > report type: statistics > report: STS009: Year 12 State statistics or STS009 – Year 12 State statistics Part 2.

Results for all WACE course units are tabulated. The only statistical test is a comparison of males against females.

STS022 – School assessment statistics

This report is provided to help schools to evaluate their internal assessment of students in WACE courses for pairs of units at Stage 2 or Stage 3. This report can be downloaded from SIRS using the following pathway:

reports > other reports > report type: statistics > report: STS022 - Year 12 School Assessment statistics.

The following information is included in this report.

Enrolment and examination numbers

Sections 1 to 4 provide information about the enrolment and examination numbers for the stage (or pair of units) for the course being reported.

Section 1 of this report indicates the numbers of students who were enrolled in the pair of units of the course.

Section 2 indicates the numbers of students who received grades in the pair of units of the course.

Section 3 indicates the number of students who sat the WACE examination in the pair of units for the course.

Section 4 indicates the number of students who were exempt from sitting the WACE examination in this pair of units for the course.

Statistical moderation of school marks

Sections 5 to 7 provide statistics that show the extent to which school marks were statistically moderated in this pair of units for the course under consideration. The difference between the school's marking scale and the scale of moderated school marks is shown in Section 7.

For comparative purposes, results are provided for the previous two years where available.

Note: for courses with a practical examination, previous results are provided from 2011 as this was the first year for which written and practical marks were recorded separately.

Small group moderation

Section 8 is only applicable to schools involved in small group moderation partnerships in this pair of units for the course. Although it was **mandatory** for schools with fewer than six WACE examination candidates to form partnerships, and it is clearly **in students' best interests** for partnerships to be effective, for various reasons, not all partnerships are successful in achieving comparability of marks between partner schools.

Schools which had six or more WACE examination candidates and were in a partnership were given the option at the end of the year to be statistically moderated without their partner/s.

For all other partner schools, the Authority reviewed the marking scales used by each of the schools and judged whether there were grounds for adjusting the partnership. If there was evidence that the partner schools had not used the same marking scales, partnerships were split or re-arranged (in the case of multi-school partnerships) to give the fairest result.

Section 8 shows the outcome of the Authority review.

Grading distribution

Section 9 provides information about the grade distribution for the pair of units, for the course. It includes the number and percentage of students allocated each grade in each unit of a Stage 2 or Stage 3 course offered by the school. For comparative purposes, State data is also provided.

Grade distribution information is presented for the previous two years where available.

Note: for courses with a practical examination, previous results are provided from 2011 as this was the first year for which written and practical marks were recorded separately.

WACE exam marks and school marks

Section 10 provides summary data of students who sat the WACE examinations for each course/stage. For comparative purposes, data from the school and State populations are

provided. This section provides the means and standard deviations for school and examination marks, with written and practical marks provided separately where there is a practical examination. The section also shows the mean and standard deviation of the WACE course scores for the two populations.

WACE course scores

Section 11 shows the number and percentage of students achieving WACE course scores within each achievement band of each course/stage. For comparative purposes, State data are also provided.

Individual WACE statistics at a school

Section 11 also shows each student's WACE examination mark, school mark, and the intermediate marks used to produce the WACE course score. The reasons for adjusting raw scores, and a brief description of each adjustment, are given on the Authority website at *Your Marks* (see last page of this document). These adjustments are used to ensure that combined marks are fairly calculated for all students.

The information on individual students is confidential and can only be used by the teachers involved in the analysis of results as part of the feedback on student performance. Individual student information must not be released to a third party without permission of the student concerned.

Explanatory notes

Each table includes some notes and abbreviations. These abbreviations mean:

Sickness/misadventure applications (column **SK**)

All students who applied for special consideration for the course/stage under consideration have an entry in this column. It should be noted that a sickness/misadventure application could be submitted for either the practical or written component of the WACE course examination. As such, entries in this column are component-specific.

'N' means that the application was rejected and no special consideration was given.

'S' means that the application was approved and an estimated examination mark, which was higher than the actual mark, replaced the actual examination mark. Students in the 'S' category are not included when statistical moderation parameters are calculated for the school/course group (i.e. they are not included in the moderation population for the school/course group).

'R' means that the application was approved but the estimated examination mark was lower than the actual mark and hence the actual mark was used in subsequent calculations. Students in the 'R' category are included in the moderation population for the school/course group.

Background candidates (column **BS**)

Some candidates in Language courses are advantaged by their language and cultural background. Students identified as background candidates have '*' in this column. Background candidates are not included in a school's moderation population. Standardisation points for raw WACE examination marks are determined with background candidates excluded.

Anomalous performers (column **AN**)

For various reasons, some candidates do not perform at the same level in the WACE examination as they usually do in class. Since the aim of statistical moderation is to give meaning to the scale of marks used in class assessments, only the results of candidates who perform typically in a WACE examination are used to determine the statistical moderation of the school/course group at a school. This group of 'typical' candidates is obtained by excluding from

the state-wide candidature those candidates whose examination results are significantly lower than would be expected from their school marks.

The primary method of identifying such students is through the use of a statistical process. The distribution of differences between standardised moderated school marks and standardised WACE examination marks, across all candidates and course/stages, approximates the normal distribution curve. Outliers in this distribution, who have performed unexpectedly **poorly** in the WACE examination, are categorised as anomalous performers. Approximately 5 per cent of all examination entries are deemed anomalous performers. Most of these outliers will have a significant difference between their standardised moderated school marks and their standardised WACE examination marks. This difference is approximately 17 marks or more, though there may be small variations in this difference from year to year.

In addition to the statistical process, there are several other methods of identifying students whose examination marks may be lower than expected, for reasons other than acceptable statistical variation. The notations below list all of the codes to be found in the **AN** column. These refer to all of the possible reasons for excluding a candidate from the moderation populations of a school.

- 'A' identified as anomalous by the statistical process
- 'C' candidate incurred a penalty for breaching examination rules
- 'F' the mark of the candidate had to be estimated because of exceptional circumstances (e.g. a successful sickness/misadventure claim).

Non-genuine attempt (column **NG**)

Some candidates do not make a genuine attempt in a WACE examination. These are defined as those who did not have a sickness/misadventure claim **but** who were:

- identified as anomalous performers, **and**
- identified by markers as having not made a genuine attempt **or** did not attempt each section of the examination.

Students with entries in the 'NG' column are not included in the moderation population for the school/course group.

Any students excluded from a moderation population are given moderated school marks that have been calculated from parameters derived from the moderation population.

STS028 – Year 12 course statistics

This report can be downloaded from SIRS using the following pathway:
reports > other reports > report type: statistics > report: STS028 - Year 12 Course Statistics by Provider (All Courses).

The report provides a graphical presentation of the distribution of WACE course scores at the school for each pair of units at Stage 2 and Stage 3 of each course offered at the school. For comparative purposes, the report also provides the state-wide distribution.

In addition, the report shows student performance in relation to the five achievement bands determined by the Authority's standards setting exercise, and how these compare with the school grades for each unit.

STS029 – Distribution of exam statistics

This report can be downloaded from SIRS using the following pathway:
reports > other reports> report type: statistics > report: STS029 – Distribution of Examination Statistics by Provider (All Courses).

The report provides a graphical presentation of the distribution of various marks/scores for students in a particular stage of a course at the school. The marks/scores include: raw examination marks, standardised examination marks, standardised moderated school assessments, combined marks and WACE course scores.

Where a course has a practical and written component, the distributions of each component are indicated on the graphs of raw examination marks, standardised examination marks and moderated school assessments.

STS036 – Statistical moderation and concurrent validity of school assessments

This report can be downloaded from SIRS using the following pathway:
reports > other reports> report type: statistics > report: STS036 - Statistical moderation and concurrent validity of school assessments.

For a particular course/stage, this report shows two important features of your school marks in relation to state-wide school marks. These two features are represented by a position on a scatter graph. Your school's position is shown as a blue dot, while other schools are shown by green or red dots. For course/stages that have a written and a practical examination, separate reports are produced.

The vertical axis shows the difference between the mean moderated school mark and the mean school mark. A positive value shows that school marks have been statistically moderated upwards (i.e. the scale of a school's marks is relatively strict in relation to the standardised examination marks scale), and a negative value shows school marks have been statistically moderated downwards (i.e. the scale of a school's marks is relatively lenient in relation to the standardised examination marks scale).

The horizontal axis shows estimates of the concurrent validity of school marks, as indicated by the consistency (correlation) between the raw school marks and the standardised WACE examination marks at a school. It is recognised that, in comparison with the WACE examination, school marks can measure a broader range of learning over an extended period of time.

Despite these differences, both school marks and WACE examination results assess students' knowledge, skills and understandings related to the syllabus and the correlation between these two sets of marks should be positive and reasonably high. Schools with a correlation of 0.7 or above (solid green) are considered to be showing reasonable consistency. Schools with a value below 0.7 (hollow red) are considered to be showing poor consistency. Values below 0.5 (solid red) are considered unacceptable, with school marks appearing to measure something only loosely related to what the examination has measured. It is important to note that correlations for a course stage with a population of fewer than 10 students may not be reliable.

Beneath the graph, the one-line summary for a school is shaded pink if the concurrent validity is below 0.5 and the difference between the mean values of school and examination marks is greater than 10 marks. Schools in this category are marking their students on a scale that is different from the WACE examination scale (i.e. school marking is more lenient or strict than the marking of the WACE examination), and their ranking of students is inconsistent with ranking in the WACE examination. Grey shading indicates similar scale differences but less disagreement in student ranks.

Detailed Examination Feedback (written - MF01, multiple choice – MF02 and practical - MF03)

These reports (formerly known as Maximising Feedback) are available from SIRS using the following pathway:

reports > maximising feedback. From there, it is possible to select the course required.

These reports provide summary and individual marks awarded to students' responses to each of the questions for each WACE examination. Feedback is provided about performance on each multiple choice item where applicable (MF01) and each open-ended response item (MF02). Where applicable, feedback is also available on the practical component of the examination (MF03).

CSE077 – Student summary details by provider (for a school)

This report can be downloaded from SIRS using the following pathway:

reports > other reports > report type: students > report: CSE077 – Student Summary Details by Provider.

The report provides the results of individual Year 12 students in course units, VET units of competency, endorsed programs and VET qualifications. It also indicates if a student has met WACE requirements.

There are three references to WACE English language competence in the top right-hand corner of this report:

- (i) English Language Competence (ELC)
This will be left blank, unless competence has been achieved in a previous calendar year, in which case the 'P' annotation will appear.
- (ii) ELC completion
If a student has met the completion requirements, a 'Y' is indicated. If not, an 'N' is indicated.
- (iii) ELC standard
This will be left blank if the standard has not been met. Otherwise, the means of meeting the standard will be indicated by one of the following annotations.
 - 'W' demonstrated through work samples
 - 'P' met the standard in a previous year
 - 'E' achieved a C grade or better in one unit of Literature or English or in English as an Additional Language/Dialect (excluding units 1A/1B) in their senior secondary years.

There is also a reference to List A and List B (in the top right-hand corner of this report) just under details relating to English Language Competence. If a student has met the list requirement, a 'Y' is indicated on this report. If not, an 'N' is indicated. Where the list requirement is waived (as a student's final year of senior secondary schooling comprises of five or more unit equivalents of endorsed programs and/or VET credit transfer), a 'W' is indicated.

Further information

Authority information pamphlets *Your Marks*, *Standardisation of Marks*, *Statistical Moderation* and *WACE Course Scores* are available from the Authority's website at http://www.scsa.wa.edu.au/internet/Senior_Secondary/WACE_Examinations/Your_Marks